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TO PRESIDENT WOODROW WILSON.

EVERY true-hearted American, every man worthy to live in this land of the free, is standing with you, upholding your hands in this the most crucial, the most momentous hour in the last nineteen hundred years. These people of every party and every section are united. They are being awakened to a mighty realization of the solemnity of this hour. They have measured well its meaning to America, to all human liberty and to world civilization. They are not unmindful of all the dangers we confront.

Like you, they have borne with almost exhaustless patience the insults and the ignominy heaped upon our country, and they have hesitated to urge war even to defend our citizens against the inhuman warfare and murders on the high seas by the world's greatest international pirates. But there is a gradual awakening to all of the meaning of the campaign of frightfulness designed by Germany to overcome the world. People know that with patience such as was never before equaled in the history of nations you have sought peace. But they know that the international murderers are now at large making war upon us. It is not ours to choose. There is no peace so long as ruthless warfare is being made upon our country, despite your tireless patience and your struggle to maintain peace.

Having taken account of the situation, and realizing that we are being forced by our enemies into war, the American people now ask you to push forward with all the power at your command for the creation of an army as well as for a navy able to cope with every danger that the future may have in store for us. We know that even if at the beginning of the war England had realized what it meant, it would have moved with a celerity that would have saved countless lives and billions of money.

We may have to face dangers as great as England and suffer losses as vast as hers in men and money ere peace shall be restored to the world unless we now prepare on a scale of magnitude commensurate with our resources in men and money and equal to our dangers to ward off such disasters as have threatened the life of England. Every weakness displayed, every failure to make ready on an enormous scale only strengthens the power of our enemies and lengthens the struggle ahead of us.

Knowing these facts, the American people now realize how we have lived in a fool's paradise of imaginary safety. They now call upon you to lead with energy and force that will match the patience you have shown. They beg you to move with all the power you can command, to hasten forward, regardless of cost, every possible means for defense, and likewise for aggressive warfare, for if we do not

THE SECRETARY OF THE NAVY.

Washington, March 12, 1917.

My Dear Mr. Edmonds:

I have your esteemed favor of the 10th instant, and in reply beg to state that I appreciate the importance of the matter to which you refer and that it has been and is receiving the attention of a board of naval officers appointed to make an exhaustive study of a dock-yard system. I expect that by the time Congress is again ready to consider naval legislation that we will have a full report to lay before that body.

Sincerely yours,

JOSEPHUS DANIELS.

P. S.—I am referring your letter to the Helm Board.

J. D.

Mr. Richard H. Edmonds,
Editor Manufacturers Record,
Baltimore, Md.

This letter from Secretary Daniels is in reply to one urging upon his attention the importance of naval stations and dock facilities on the South Atlantic and Gulf coasts.

make an aggressive fight with all the financial and military resources we can command, we shall find that a defensive war will but lead to our defeat, our humiliation and the wreck and ruin of our land.

To underrate the power of our enemies and their endurance would be unspeakable folly. We are confronted by nations who for years have been making ready for this hour, whose spies cover our country and are in a thousand unexpected places, and whose fighting machine is the most marvelous the world has ever known. On the other hand, we are almost wholly unprepared. Our army is small and poorly equipped. Our navy's expansion will require years of work. Our every weakness is known to our enemies, and our boundless wealth excites their hatred and cupidity. Moreover, the continued success of democracy here would doom to destruction autocracy in Germany and Austria. This is a ruthless war of autocracy against democracy, of barbarism against civilization.

Upon you rests the weightiest responsibility which ever fell to the lot of any American President. You have led the nation during the last three years of world war, and now the nation realizes that upon you depends the responsibility for the vigor with which we meet this, the supremest hour in the nation's life.

Every believer in Divine guidance—and who is there that does not turn to the Almighty Ruler of nations in this hour—is praying for strength of body and mind and soul for you, that you may lead our country with all its latent power, fully developed, in the path of duty to God, to humanity, to civilization and to human liberty.

WIRELESS STATIONS IN MEXICO.

[From Economista of Mexico City, March 3, 1917.]

THE director of telegraphs will begin in a few days, in compliance with orders from his superiors, to install a new wireless station on the Isla de Lobos (wolves), and will equip it with apparatus of very great potency, so that communication can be established with the rest of the country. Material and apparatus are now being loaded on board a vessel so that the work can be begun. Lobos Island is 85 miles south of Tampico, about 25 miles out in the Gulf. Tuxpan is the nearest town. That makes three powerful stations—the above, Mexico City, and the one at Puerto Morelos, near Cape Cutoche, Yucatan. There is a regiment of little ones!

Is this a part of Germany's deal with Mexico and is this in part the explanation of why Germany has for two years or more been financing Mexican revolutionists against the United States?

SOUTH A LAGGARD IN SHIPBUILDING.

CONTRACTS for naval boats and for commercial ships are being awarded to the shipbuilders of the Atlantic and Pacific coasts as never before in history. Foreign shipowners are almost eager in the scramble to award contracts to American shipbuilders. A month ago the ships under contract in this country represented a cost of about \$700,000,000. Since then contracts let to American yards by the Government and by commercial concerns in this country and abroad probably brings the total amount of shipbuilding in the country now under construction or under contract up to nearly \$1,000,000,000.

It is an amazing total. It makes shipbuilding expansion as dominant in the business interests of the country as railroad expansion, even in the most active times of railroad building. New shipyards are being organized to take care of this vast business, and existing plants are hurrying expansions to their facilities; but to a large extent the South, below the capes of Chesapeake Bay, stands idle as far as shipbuilding is concerned, with its hands folded, except for the work here and there of a few active men who are trying to enlarge its shipbuilding facilities. No great movement for the building of big plants at any point in the South below Virginia seems to be under way. Small schemes, worthy of hearty commendation, are being put into effect here and there, but great plants, representing millions of dollars, are not among the projects that are being reported from Southern ports.

For two years or more the MANUFACTURERS RECORD has been stressing this point and urging the South to get ready for this shipbuilding activity.

We have steadily pointed out the certainty of the building of a great navy, running into the hundreds of millions of dollars and taxing the capacity of all the shipyards in America. We have at the same time been pointing to the certainty of great commercial shipbuilding activity to meet the losses due to waste by the ships sunk, by the ships that are being worn out by depreciating now engaged in war activities and by the vast expansion in world commerce which will take place after the war.

The South has missed its opportunity, one of the greatest opportunities in the industrial life of any country. It is not too late, however. Will this section wake up and by a new spirit of life and energy in Southern ports create shipbuilding facilities which will enable it to share in the marvelous shipbuilding prosperity of the hour, and which must continue for years to come?

GERMANY'S EFFORT TO STIR UP MEXICO AGAINST UNITED STATES MORE THAN TWO YEARS OLD.

MANY people in this country have been suddenly aroused to a recognition of Germany's efforts to compass the downfall of the United States by the discovery of the recent letter from Zimmerman, outlining a plan for an alliance between Mexico, Japan and Germany against us. This has been treated by many as though it was an entirely new thing, and as if it completely changed the complexion of the whole situation, and justified any action that we might take to defend ourselves against Germany. This is an erroneous viewpoint.

Germany has been carrying on its efforts to arouse Mexico against the United States for two years or more, and the MANUFACTURERS RECORD has heretofore called attention to the situation.

On September 9, 1915, we published the following editorial:

"From an old Confederate officer, an attorney-at-law, who for nearly half a century has been living close to the border of Mexico and been in intimate touch with Mexican conditions in Texas as well as in Mexico, we are in receipt of a letter in the course of which it is said:

Well, Germany has virtually recognized the Carranza Government in Mexico. The Kaiser is nothing unless intriguing. He holds out the olive branch of peace to us, while he carries the knife of the assassin up his sleeve. He yields, as perforce of international law he must, in the matter of submarine warfare for which the United States contended, hoping thereby to receive the United States' influence on England to change her maritime blockade of provisions to Germany, and at the same time he stabs us in the back by interfering with Mexican affairs, directly in contravention of American policy toward Mexico and the Monroe Doctrine applicable to all Europe. Dispossessed by Japan of his Pacific bases and by England of his African bases, the Kaiser is now seeking a foothold in Mexico to supply a base both on the Atlantic and Pacific side of America.

The German residents of Mexico far exceed those of any, in fact, of all other European nations, and they have for some time been openly stirring up hostility against us, which has brought about and urged on the border warfare we are having with Mexican bandits all along the Rio Grande. If continued, this will inevitably lead to war between the United States and Mexico, and that will be Germany's opportunity to step in to the aid of Mexico and precipitate a war with Germany. Events are leading up to this, and the Kaiser will be free to give Mexico all the aid she may need in a war with us.

Great stirring and tragic events loom up in the not distant future, but I fear our people will not see it until too late. We have become a nation of shopkeepers, speculators and millionaires, and can see nothing but the almighty dollar. It behooves us to a vigorous prosecution of preparedness, and I hope Congress will be equal to the emergency and rise with the occasion. Our cause of complaint against Germany for stirring up this strife along the border and inciting the bandit raids is that these acts are directly traceable to German residents in Mexico, encouraged and abetted by their home people, if not by the Government directly, and urged on by Carranza, who has the confidence and secret co-operation of the German Government.

"Here are some remarkable statements made by an attorney accustomed to measure with great care what he says. His letter, written under date of September 2, comes from close to the Mexican border. It was not written for publication; it was not written with any thought that it would even be seen by any except the relatives to whom it was sent. It is, therefore, all the more important, for it was not written with the idea of affecting public sentiment. It is merely an expression of the knowledge of the situation gained by a lawyer who was a Confederate officer and who for nearly half a century has lived

in intimate touch with Mexico and the Mexican people.

"Are these statements correct?

"Similar reports have been coming to the MANUFACTURERS RECORD from others familiar with the situation. If they are correct, do the officials of the United States Government understand the situation? And if so, what is this country going to do about it?"

As stated in the foregoing, similar reports were received by the MANUFACTURERS RECORD from other men of the highest reliability and thoroughly familiar with the situation. According to these statements, Germany was vigorously at work in the summer of 1915, and the German residents of Mexico were actively identified with the campaign to stir up the Mexican revolution as against the United States. We repeat the closing statement of the letter from this old ex-Confederate officer, a man of the highest integrity, a student of human history, with a broad grasp of international affairs, in which he says:

"Great, stirring and tragic events loom up in the distant future, but I fear that our people will not see it until too late. * * * It behooves us to a vigorous prosecution of preparedness, and I hope Congress will be equal to the emergency and rise to the occasion. Our cause of complaint against Germany for stirring up this strife along the border and inciting bandit raids is that these acts are directly traceable to German residents in Mexico, encouraged and abetted by their home people, if not by the Government directly, and urged on by Carranza, who has the confidence and the co-operation of the German Government."

The discovery of the Zimmerman letter has suddenly called forth a burst of bitter resentment for the part Germany has been thus openly playing in trying to bring on war against the United States by Mexico and Japan. But it is a late hour for this thought of apparent surprise and indignation. The work has been clearly under way for the last two years, and how the people of this country and any of its newspapers have utterly failed to understand this work was in progress is incomprehensible. What the Zimmerman letter revealed could easily have been known two years ago.

There is even a more serious situation to this than the public yet understands.

We must remember that Mexico has about 16,000,000 people, that many of them for the last four or five years have been accustomed to fighting, that they have been toughened and hardened and have been trained and drilled until many of the Mexican soldiers may be counted upon to put up a very stiff fight. When once she has her ammunition plants in full operation, drilled as her soldiers are doubtless now being drilled by German officers, backed by a country of almost limitless natural advantages, with vast stores of oil, iron ore, copper, gold, silver and other minerals, with a soil which in some sections is capable of tropical luxuriance of production, we cannot afford to despise Mexico as an enemy or to overlook the fact that it could give us very serious trouble.

Texas and the border States generally will be making a very serious mistake if entirely without regard to what the national Government may do they do not promptly prepare to mobilize all of the strength of their people for their own protection.

IT IS NOT OURS TO CHOOSE BETWEEN WAR AND PEACE.

WAR has already been made upon us, our people have been murdered, our protests go unheard, our flag has been driven from the sea.

Is that peace, or is it war?

From the ocean depths come the cries of innocent children, of helpless women, murdered in cold blood, to the men of America and ask, "Shall others die as we have died because you have lost your manhood?"

Shall your children, your wives, your aged mothers be murdered and their bodies fed to the

sharks because American men are no longer ready to defend their women, their flag, their liberties?

Were you sired by the men who laid the foundation of civil and religious liberty in this fair land?

Are you worthy to inherit so glorious a trust, as matchless a country, if you permit your loved ones who have looked to American manhood for protection, to die by the hand of the world's greatest murderer, and you lift no strong arm to defend them?

Are you willing to sell your nation's honor and to see civilization destroyed and the blackest pages in all human history record the downfall of America because its people heeded not the call of duty?

Do you stand beside Woodrow Wilson, your President, to uphold his hands; or,

Do you put yourself with that small number whose presence is a disgrace to the halls of Congress, a very stench in the nostrils of decency, a putrid, festering sore?

Are you ready to be counted with this crowd, who should be spurned by every honest man, ostracized forever by all true men, who should henceforth count it an unspeakable disgrace even to speak to such traitors to their country and to humanity?

Where do you stand?

AN OPPORTUNITY TO MAKE THE SOUTH'S RESOURCES KNOWN.

A NUMBER of leading railroads of the South are planning for large exhibits of Southern chemical and mineral potentialities at the National Exposition of Chemical Industries in New York in September next. The spirit with which some of the leading railroad people of the South are taking hold of this situation is typified in a letter from Mr. F. H. La Baume, agricultural and industrial agent, of Roanoke, Va. In writing to a number of leading railroad officials in the South emphasizing the importance of this opportunity to make the South better known, Mr. La Baume said:

We believe this National Exposition of Chemical Industries offers a most excellent opportunity of the South to present its facilities in the furnishing of raw materials. For this reason we have taken space in this Exposition and are arranging through this department and with the co-operation of our chief chemist to install an attractive display. The more Southern exhibitors we have at this Exposition the greater will be the cumulative effect.

This is a clear statement of the situation, and Mr. La Baume has made a wise move in sending a copy of this letter, which was written in reply to an inquiry to him, to a large number of railroad people in the South that all might see what this opportunity means.

North Carolina will, through its Geological Survey, make an interesting exhibit of the resources of that State. Some other Southern States are figuring on doing the same, but as yet comparatively little has been done by States in preparing to make official exhibits, whereas every State in the South should be represented through its Geological Survey at this Exposition of Chemical Industries. If the railroads which have not yet arranged for exhibiting the resources of the country tributary to them and the States and large corporations will take hold of this matter vigorously, it will be possible to make a display worthy of the South and its resources.

At the last Exposition, in September, 1916, there were, we are informed, 80,000 visitors, mainly composed of the foremost financiers, manufacturers, chemists, chemical engineers and other specialists in the entire country. These men gathered there for the purpose of studying the resources of the different sections and the various chemical developments that had been made in all lines of industry. It was a great gathering and accomplished large results. The South should use the opportunity of the coming Exposition to a far greater extent than it did last year. Fortunately the South has already engaged far more space than it had last year, and many railroads which were not represented then will be represented this year, but there is still room for others.

MILITARY CENSUS SHOULD BE TAKEN AT ONCE BY EVERY SOUTHERN STATE.

CONNECTICUT, under the wise leadership of its Governor, has for some weeks been compiling a census of its military strength and of its industries available for the production of war supplies. At the same time, it has been planning for the fullest protection of its industries against enemy spies. The work of Connecticut, as outlined in the MANUFACTURERS RECORD last week, has stimulated other states to do the same, and all the New England States are following its example, while New Jersey, Maryland and other Eastern States are doing similar good work. In order to find out whether the South was making any move in this direction, a telegram was sent to the Governor of each Southern State, explaining what Connecticut was doing, and asking what was being done in these Southern States. The replies thus far received are published in this issue. Governor Cornwell of West Virginia shows that he is alive to the situation and that as far as can be done without official legislative action, he is at work to find out what West Virginia can do in an emergency.

From Governor Catts of Florida there came a telegram as follows:

"Telegram received in regard to showing military strength by the State of Connecticut. Will say that we have not taken a census down here yet, as we do not think that war is close enough to warrant it. In case we have war, you can count on Florida doing her part."

Practically this says that we propose to wait until the house has been entered by the burglar, the goods stolen, and the people robbed, and then we will look around and see what should have been done by the man who was killed to protect his family and his goods. That indicates the appreciation that Governor Catts shows of the situation. With the President of the United States warning the country with all the power at his command as to the danger ahead of us, and with every man of intelligence recognizing the situation, Governor Catts does not think the war is close enough to justify any advance preparation in order to guard against it, but he proposes to wait until war is upon us, and after war has come, Florida can be counted upon to do its part. Poor Florida!

Governor Bilbo of Mississippi writes:

"Responding to this inquiry, I beg to say that Mississippi has taken no step in this direction, nor do I contemplate doing this as Governor until it becomes necessary. Our State could do little or nothing toward the making of munitions. As to our available military strength, this is known by the War Department."

Governor Bilbo's lack of recognition of what Mississippi could do matches Governor Catts' decision not to do anything until war has come. Governor Bilbo's lack of knowledge of Mississippi's ability to do anything towards making munitions of war reminds us of a statement made to the editor of the MANUFACTURERS RECORD some years ago by one of the most energetic men in Louisiana about that State, and one who thought himself thoroughly informed. In reply to a query as to Louisiana's potentialities, he wrote some facts in regard to its timber and its agriculture, but added:

"As you know, Louisiana has no mineral resources whatever for development."

Louisiana is producing a large part of the sulphur output of the world, and up to a few years ago, when Texas joined in production, Louisiana sulphur was largely more than one-half the world's output. The vast oil and gas fields of Louisiana, the almost limitless salt beds of the State, and other mineral resources all combine to give to Louisiana exceptional advantages for industrial development. Some experts say that it is the best place in the world for chemical industries by reason of the abundance of the raw materials. Yet one of the foremost business men of the State, who had long thought only in terms of cotton and sugar, wrote us that Louisiana had no mineral resources. His view as expressed in that letter might be put along side of the letter from Governor Bilbo. One would fairly match the other. The things that enter into war include cotton, lumber, shipbuilding, foundry and machine work, and many other things, as well as foodstuffs, for all of which Mississippi is admirably adapted. And yet Governor Bilbo, like Governor Catts, does

not propose to take any steps towards investigating the situation until it becomes necessary! How do Mississippi people feel as to such methods?

Governor Emerson C. Harrington of Maryland has been conspicuously active in plans for the military and industrial preparedness of the State, and in order to keep in touch with the work of other States, attended the conference of governors held in Philadelphia last week, to discuss and adopt measures that would quickly and thoroughly place the States in the best position to co-operate with the National Government in event of war.

In answer to a request of the MANUFACTURERS RECORD for a statement as to Maryland's work, Governor Harrington writes:

We are arranging at once to have prepared a survey of the military resources of Maryland and a military census of those who, under our law, are liable to be called to service. Under our law all those above 18 and under 45 years of age are liable for service, with some exceptions. We hope to have prepared within the next 10 days a complete census. About two weeks ago I appointed a commission, of which Gen. Carl R. Gray is chairman, and they are engaged in making a very complete statement of the resources of the State, etc. Some arrangements are contemplated which we do not think it advisable to disclose at this time. This is as far as we can say at present. Maryland will be prepared to do her part in any emergency.

John J. Cornwell, Governor of West Virginia, wired:

"In response to your wire a list of industries available for manufacture of munitions and arms in case of war is now being compiled under the military code of West Virginia. An enrollment of persons liable to military duty is authorized, preliminary steps are being taken toward securing such an enrollment, but legislative action will be required to complete an official census of the available military strength of the State for war purpose."

Governor Richard I. Manning of South Carolina wired:

"Census of Industries available for manufacture in case of war has been completed by South Carolina and turned over to proper authorities."

The secretary to Frederick D. Gardner, Governor of Missouri, wrote:

"Answering your wire, will say, our State will comply with the requirements of the Federal Defense Act, and the present numerical strength of our National Guard will be increased fifty per cent. by July 1, 1917, and we will continue to increase yearly until we have reached the maximum strength required by the Defense Act. The Legislature is now making an appropriation of \$265,000.

"If you desire any further information, it will be gladly furnished you."

From H. C. Stuart, Governor of Virginia, this telegram was received:

"Replying to your query the present strength of the Virginia National Guard is approximately 4000; war strength, 8100. As to your other questions I respectfully refer you to the War Department, which is in possession of all information along that particular line and will give you such portion as should be made public."

With the exception of the responses of Governor Catts of Florida and Governor Bilbo of Mississippi, as given above, no other replies have as yet been received.

IMMORTAL WORDS OF PATRICK HENRY DESCRIBE CONDITIONS OF TODAY.

AT the present time we may very well paraphrase some of the statements made in Patrick Henry's speech to the Convention of Delegates of Virginia in 1775, as follows:

"This is no time for ceremony. The question before the country is one of awful moment to the world. For my own part, I consider it as nothing less than a question of freedom or slavery. It is only in this way that we can hope to arrive at truth, and fulfill the great responsibility which we hold to God and our country. Should I keep back my opinions at such a time, through fear of giving offense, I should consider myself as guilty of treason toward my country, and of an act of disloyalty toward the Majesty of Heaven, which I revere before all earthly kings.

"It is natural to men to indulge in the illusions of hope. We are apt to shut our eyes against a painful truth, and listen to the song of that siren till she transforms us into beasts. Is this the part of wise men engaged in a great and arduous struggle to maintain liberty? Are we disposed to be of

the number of those who having eyes, see not, and having ears, hear not, the things which so clearly concern their temporal salvation? For my part, whatever anguish of spirit it may cost, I am willing to know the whole truth; to know the worst, and to provide for it.

"I have but one lamp by which my feet are guided, and that is the lamp of experience. I know of no way of judging of the future but by the past. And judging by the past, I wish to know what there has been in the conduct of Germany for the last two years to justify those hopes with which some of our people have been pleased to solace themselves? Ask yourselves how their protestations of friendship have comported with their sinking of our ships, their disregard of all laws of civilized war, their spy system which covers our land and their efforts to unite Mexico and Japan against us. Let us not deceive ourselves. These are the plans for our subjugation.

"Let us not, I beseech you, sir, deceive ourselves longer. We have done everything that could be done to divert the storm which is now coming on. We have protested; we have remonstrated, but our remonstrances have produced additional violence and insult. Our protestations have been disregarded and we have been spurned with contempt. In vain, after these things, may we indulge the fond hope of peace. There is no longer any room for hope.

"If we wish to be free, if we mean to preserve inviolate those inestimable privileges for which we have been so long contending—if we mean not basely to abandon the noble struggle for human liberty in which we have been so long engaged, and which we have pledged ourselves never to abandon until the glorious object of our contest shall be obtained—we must fight!

"I repeat it, sir, we must fight!

"An appeal to arms and to the God of Hosts is all that is left us! Besides, sir, we have no election. If we were base enough to desire it, it is now too late to retire from the contest. There is no retreat but in submission and slavery! It is vain, sir, to extenuate the matter.

"Gentlemen may cry Peace, peace—but there is no peace. The war is actually begun. Our ships have been sunk, our people have been murdered on the high seas, and our brethren are already in the field fighting our battles as much as their own to save the world from slavery.

"Is life so dear, or peace so sweet, as to be purchased at the price of chains and slavery? Forbid it, Almighty God! I know not what course others may take; but as for me, give me liberty or give me death!"

AUTOCRACY PROBABLY DOOMED IN RUSSIA.

IN the first issue of the MANUFACTURERS RECORD published after the declaration of war in Europe, with date of August 6, 1914, there was an editorial in which the opening paragraph was as follows:

"Humanity may be staggered by the horrors of the European war, but civilization will not be destroyed. Millions of men and billions of treasure may be lost in this devilish work; thrones may be destroyed, and new maps of Europe may be necessary before the end is reached, but mankind will, on the wreck of these ruins, build a better civilization—one in which the people, and not a few unscrupulous men who feel that they have been divinely appointed, will rule."

The overturning of the government of Russia by the people and the possibility of the establishment of the Republic of Russia indicates the fulfillment of that prediction. On the wreck of the ruins of Russian autocracy we believe the Russian people will build a greater civilization. We have never doubted from the beginning of the war that before it ended Russian civilization would have been mightily advanced, and the people would have thrown off many of the shackles which have bound them.

The movement in Russia is a warning to the Hohenzolerns and the Hapsburgs of Germany and Austria. We believe that before this war is finally ended there will be a revolution in Austria and in Germany, as there has been in Russia, and that on the ruins of the Hohenzolern and the Hapsburg dynasties the people of these countries will build a

better civilization, but for generations to come they will mourn in sackcloth and ashes that they have been led during the last three years by the most unscrupulous power which hell itself has ever turned loose upon mankind.

If those in charge of the provisional government in Russia can make good their plans as announced for universal suffrage and the largest civil and religious liberty, they will have wrought one of the mightiest revolutions ever known in the world's history.

We have long known that there was great unrest in Russia; that there was likelihood of a revolution after the war, and the liberalizing of the Russian Government. From people familiar with Russian conditions we have been fully apprised of the likelihood of a revolution looking to the overturning of the monarchy, but they had expected that this would not come until after the war. That the pro-German activities of some Russian leaders brought the revolution ahead of time, overturned the Government and set up a new Government on plans as broad as those of our own nation is one of the most encouraging movements in the record of human history.

If the new Government can be maintained without having to fight a civil war for its existence, it will truly represent a miracle.

We have long looked forward to the overturning of monarchy in Russia, to the opening of that mighty country, with about one-fifth of the world's land area and with a population nearly double that of the United States. That this mighty change has taken place is one of the greatest epochs of human history. We are indeed living in a momentous time, in a time in which to live is sublime.

HOW TO BRING ENTERPRISES SOUTH.

FROM a large number of commercial organizations in the South we have received letters in reply to our recent query as to how many commercial organizations had aggressively sought to interest Henry Ford and other big automobile concerns in building branch plants in the South. These writers all speak of the lengthy correspondence which they have carried on with the automobile manufacturers, but we have not as yet received any statement from any organization which told of vigorous personal work with the automobile people to induce them to locate in the South. All the letters that might be written in a year will not accomplish the desired result, unless these letters are followed, as in the case of Paducah, to which we have recently referred, by vigorous, aggressive, personal work.

If the MANUFACTURERS RECORD, or any other business organization, contented itself in its efforts to get business with sitting down and writing letters to manufacturers or other prospective customers, bankruptcy would soon stare it in the face. In these days, if a man expects to do business (and what is true of the individual is true of the city seeking industries) he must go after it through able, accredited representatives, who, month after month and year after year, stick at the job until finally they make an opening and do business. If the Paducah people had been content to sit down and write letters to Detroit manufacturers, they never would have secured the enterprises which they have recently brought to their town by the personal work in Detroit of leading Paducah men.

The railroad industrial agent or commercial organization which does not follow its letter-writing and advertising campaign with personal work will never get very far on the journey. Advertising is one wise step and an essential one, but it cannot be the final step, and the business concerns who are trying to locate industries in the South, but who fail to recognize the necessity of personal work and personal touch with a prospective customer, will never get very far in their campaign. The letters are taken largely as a perfunctory matter, and are answered in the same way. They do not get down to the heart of the subject, and they are not considered by the prospective customer in any such light as would be a personal visit—not once, but if need be dozens of times, to interest the manufacturer

to locate in the South. The MANUFACTURERS RECORD has many valued customers upon whom its representatives called time after time for years before they made any real impression, but, never discouraged, they kept on and intelligently presented the growing wealth of the South and the opportunity which it presents for Northern and Western concerns to do business here. Until railroads and commercial organizations go after Northern investors with the same sort of tireless energy by men of the highest character, thoroughly acquainted with the subject they are discussing, these organizations will never produce large results. But these men can not do this unless backed financially and in every other way by the railroads and the organizations employing them.

\$1,000,000 FOR ADVERTISING.

AN impressive tribute to the value of advertising is presented in the annual report of the American Sugar Refining Co., which shows in the general balance sheet of December 31, 1916, the sum of \$1,000,000 among the reserves for "trade-mark advertising." There could hardly be any stronger appreciation of the advantages of publicity by means of paper and printer's ink than is here displayed; it is classed in the same column with fire insurance, improvement of plants, pension fund and contingencies, being fully recognized as a necessary feature of the business, and is stamped with the mark of permanence.

By devoting this large sum to advertising the American Sugar Refining Co. discloses an intention to acquaint the entire public with the distinctive emblems of its products in a thorough manner, and thus establish its trade upon the most substantial foundation, viz., a steady, great and growing retail demand, which will unceasingly supplement the efforts of its sales department and render easier of accomplishment the work of extending existing markets and creating new ones. Not only this, but the advertising will preserve to the company trade once secured by keeping before the people the facts concerning its products and their improvement from time to time.

No doubt the adoption of this liberal advertising policy will have an important effect upon other manufacturers, who thus have set before them a hearty recognition of the value of publicity by advertising through a lively use of the press a method of putting one's wares in the view of public that will always be productive of good results, and which will probably yield benefits exceeding all expectations. Judicious advertising, coupled with persistency and energy, is a sure winner, as the success of great enterprises amply testifies.

President Earl D. Babst says that the year's "turnover of the company aggregated approximately \$200,000,000, so that the manufacturing profit amounted to about 4½ per cent. on each dollar of turnover, a profit far below that ordinarily obtaining in manufacturing enterprises." The profit from operation was \$9,756,379.

The report also says that so large is the excess of sugar refining capacity in the United States that this country could refine annually with profit at least 1,000,000 tons of sugar for export. Nevertheless, an addition will be made to this surplus capacity by the early completion by new interests of a new refinery at Savannah, and plans are talked of for a prospective refinery at Boston. The beet-sugar industry is also contributing additional capacity, as seven new plants have been slicing during the current season, and at least twenty additional plants are reported. With the addition of the larger export business and the uninterrupted operation of the Chalmette refinery near New Orleans the volume of the company's business was larger than for many years.

It is significant that, notwithstanding the increased cost of refining and packing materials, the larger business, aided by the increasing value of inventory and by-products, resulted in a more satisfactory manufacturing profit than has been reported for several years. Profits on exports contributed largely to this result.

BATTLESHIPS AND CRUISERS VALUELESS WITHOUT DOCKING OR REPAIRING FACILITIES.

ABOUT three-fifths of the total coast line of continental United States is in the South, reaching from the Chesapeake Bay to the border line of Mexico. In that great stretch of coast, the protection of which is absolutely essential to the salvation of the nation if ever attacked by a foreign fleet, there is not a suitable plant between Cape Henry and the Rio Grande with a drydock adequate to the handling of a single dreadnaught.

Congress has authorized, including the bill now under discussion, the construction of naval ships whose cost and equipment will ultimately exceed a billion dollars, and yet the facilities we are providing to maintain these ships in a state of efficiency are absolutely inadequate, and, so far as three-fifths of the country's coast line is concerned, are entirely absent.

Drydocks and adequate ship-repairing facilities are as important as capital ships themselves, and yet the country is not seriously contemplating the building of a suitable naval base at any point between Cape Henry and the border line of Mexico.

It will require a longer time to build a modern drydock than to build a battleship, and yet when the extensive naval program of construction authorized has been reached, we will not be able to dock either a super-dreadnaught or a battle cruiser of the character of those included in this program at any point below Cape Henry.

This situation is amazing in itself. It is all the more amazing in view of the fact naval authorities universally admit that two of the greatest problems confronting us in time of war would be the protection of the Isthmian Canal and the Mexican oil fields, with all that this involves in the protection of the Gulf.

All of the sulphur produced in the United States, with the exception of a few thousand tons, and more than three-fourths of the total production of the world, comes from two points on the Gulf coast, one in Louisiana and one in Texas. The destruction by an enemy of these sulphur plants would be a national disaster in time of war.

All of the cotton produced in the United States, excepting a few thousand bales grown in California and Arizona, is from the country tributary to the South Atlantic and Gulf coasts. This cotton is absolutely essential to the life of the nation in time of war as well as in time of peace, but there are no naval bases along the coast from Cape Henry to the Rio Grande which make possible the docking and repair of a battleship or cruiser if injured in a naval engagement.

The destruction of our battle fleet on the South Atlantic or in the Gulf of Mexico or the Caribbean Sea would immediately open the entire stretch of Southern coast and enable an enemy to strike at the very heart of the country in reaching the South and through the South the food-growing section of the Central West.

It is scarcely possible to conceive that this country has been so shortsighted, and yet we know that it is true. We have done nothing even worth mentioning toward the development of any important naval base or the building of any drydocks equal to the needs of a battleship in all that great stretch of coast line. The penalty of our failure to do this must now be an expenditure in keeping with the dangers involved and the vast wealth to be protected.

The West has thought itself safe, and the North and West alike have to a large extent fought against the development of naval bases on the South Atlantic and Gulf coasts, as though their construction would be purely of local benefit and of no value to the country at large. The antagonism which has been created by such interests against the adequate development of facilities needed on this coast has been aided in its work of hindering real naval preparedness by the shortsighted position of some Southern communities and some Southern legislators, each pulling for individual interests and ignoring the broad general principle of national safety. Had all of these communities and legislators of the South

unitedly worked, not for any narrow local development, but for adequate protection of the whole South and the whole country, by being willing to see great naval bases established at whatever point the experts decided to be the best, it is quite possible that the country would not now be in this dangerous situation.

All of our battleships and cruisers, all that we are trying to do to enlarge our navy, may become utterly valueless unless we provide on the South Atlantic and Gulf coasts ample docking and repairing facilities, with machine shops and foundries adequate to the largest possible needs of the great battleships of the day. Every thought of sectional feeling or of individual community welfare should be put aside and the question studied from the broad patriotic standpoint of national welfare. Until this is done it is almost impossible to look for any real progress being made in a naval expansion policy which will make for the largest usefulness of the battleships and cruisers for which the money has been appropriated.

These facts are not new. We have been iterating and reiterating them, because it is only in this way that any impression can be made upon the public.

POTASH AS A BY-PRODUCT IN CEMENT AND IRON MAKING.

UNITED STATES CONSUL CHESTER W. MARTIN of Toronto, Canada, in a report to the Department of Commerce, Washington, credits a Canadian newspaper with a statement that the Durham (Ont.) Cement Plant is producing from 12 to 16 tons of potash a day as a by-product of cement making. In this statement he writes:

"Feldspar rock is added to the limestone as a raw material for cement, and a process has been evolved for collecting the liberated potash," and adds: "Both muriates and caustic products are produced, and while the market standard of the former is fixed at 80 per cent. to the trade, the company claims that it is possible to produce an article which is almost pure."

"This plant has eight kilns. The output of potash as a by-product amounts to 15 tons a day. In addition to this, by trapping dust and gases in which there is 5 per cent. of potash, valuable fertilizer is produced. The chemist makes the following statement:

Within five years every cement plant in Canada could be producing potash as a by-product. In the feldspar deposits, which extend widely through the Northern parts of this Province, Canada has a natural resource of immense value. There is more feldspar in one county of Ontario than in the whole of the United States. It contains at least 10 per cent. of potash, and through the process employed at Durham more than 86 per cent. of the pure article is collected.

The cost of manufacturing potash in Canada from feldspar is so low even now that it is less than the freight charge paid on a ton of the imported German product before the war. The result of this discovery will be the complete breaking of the German monopoly. In addition to guaranteeing a much-needed supply of potash for the present urgent demands, it will result in meeting the needs of the American Continent for fertilizers.

We take it for granted that the system which is in use at this Canadian plant is the same as that which has been in successful operation at the plant of the Security Cement & Lime Co., Security, Md., since last fall. This Maryland plant has been steadily turning out potash as a by-product in cement production. With a likelihood that we shall not be able for a long time to come to draw upon the potash supply of Germany, it becomes doubly important now that every possible means should be used to develop the potash industry in the United States.

In addition to the making of potash at this Maryland cement plant, particulars of which were given in the MANUFACTURERS RECORD a year ago, and which have been followed from time to time by other details, the MANUFACTURERS RECORD was, we believe, the first paper in the country to publish an article by Mr. Charles Catlett of Staunton as to the possibility of producing potash as a by-product in iron making. The statement made by Mr. Catlett attracted very wide attention, and a number of iron concerns began an investigation of the matter. A

recent issue of the Bulletin of the American Institute of Mining Engineers contained an interesting article by Mr. R. J. Wysor as to the work which is being done by the Bethlehem Steel Corporation, under the heading "Potash as a By-Product From the Blast Furnace." Mr. Wysor, who is superintendent of the blast furnaces at Bethlehem, tells of his investigation, running back four years ago, of this subject, and says:

"I analyzed the fine yellowish fume, of which a considerable quantity was removed from the bottom of the stove checker work. A sample was found to contain, among other constituents, about 15 per cent. water-soluble potash, which was somewhat surprising. This induced an investigation, which showed that considerable quantities of this material, hitherto a waste product, could be recovered from our stoves and gas-fired boiler settings. * * * With the beginning of the war and the subsequent rise in the potash market, conditions were changed. Knowing just what dust to recover, reclamation was immediately commenced, a satisfactory contract was negotiated, and this company has been disposing of the dust at a good profit ever since."

Elsewhere Mr. Wysor says:

"Potash doubtless occurs almost entirely in some form of feldspar or clay in all the materials entering the blast furnace.

"At Bethlehem we receive ores from many quarters of the globe, and an attempt was made to discover whether the relative percentages of alkalies in the various ores bore any special relation to the source, mineralogical nature or to the silica and illumina contents of these ores. No striking relation was discovered, excepting that the manganese ores from widely-separated sources were found to contain relatively high percentages of potash as compared to most iron ores. Iron ores of this country, including those of the South, containing upward of 1 per cent. potash or over, seem to be restricted to small areas."

In Mr. Catlett's article on the subject he called attention to the fact that ores in portions of eastern Alabama contained larger potash contents than any other ores of which he has been able to secure reports anywhere in the United States. The work which the Bethlehem Company is doing would seem to suggest, in view of the certainty that we shall have to depend upon ourselves for our potash supply, that every iron company in the country should investigate its ores to see whether it will be profitable to introduce potash by-product saving as at Bethlehem. This situation also suggests that the particular ores of eastern Alabama which received such high commendation from Catlett, by reason of their potash, and equally as strong endorsement by Dr. J. S. Grasty, Economic Geologist, in his article in our Chemical Issue published last September, should be thoroughly investigated. Mr. Catlett stated that the potash contents, as indicated by analysis, showed that potash as a by-product might very far exceed in value the iron produced out of these ores.

GOOD TO COME FROM ARMOR AND NITRATE PLANT INVESTIGATIONS, TO THE SOUTH.

THE work of the boards appointed by the Government to investigate sites in the South for an armor plant and for a nitrate plant, the visit of the Lake Superior Mining Institute to the South and other movements which have brought new people to a study of the South's resources will do a world of good in keeping this section before itself.

The South needs to know itself more than it needs that other sections shall know it.

The South needs to mobilize all of the knowledge that is available about itself and to mobilize all of its energy and all of its capital in its own development.

This will come about in part as never before through the study which the South is making of itself as it undertakes to enlighten these various boards and visiting organizations. Many cities have already been stirred to greater activity merely by the study which they have made of their resources and their advantages for an armor plant and a

nitrate plant. The information that has been gathered can never be lost. The latent energy which has been brought to the front cannot be dissipated entirely. It should be greatly stimulated and developed.

The investigations that are being made by these outside people have caused the South to study its own resources with more vigor and enthusiasm than has been seen in the last twenty-five years. It is a remarkable fact, lamentable from many points of view, that twenty-five years ago there was far more discussion in Southern newspapers about industrial development in the South than there has been in the last ten years and more space was given in proportion to other news in the local columns of Southern papers about material activities. There was active rivalry everywhere as to which community should accomplish the largest results and there was a rivalry among Southern papers to give all the news about all neighboring States. Today a man who reads the Atlanta papers only will know very little about what Alabama, or Mississippi, or Kentucky, or Tennessee are doing. The man who reads Chattanooga papers only will not know much about what Birmingham or Atlanta are accomplishing. The man who confines his reading to the Birmingham papers will be very provincial in his knowledge about Georgia and Kentucky and Tennessee so far as relates to their real material development. All of these papers publish the political news and sometimes the scandal of neighboring States, but they give comparatively little space to keeping their readers informed as to what is being done by other cities outside of their own State.

There is less broad discussion in Southern papers of the general development of the whole South than there was twenty-five years ago. There are many reasons for this, some of them are good ones, but a discussion of the subject should arouse the newspapers of the South to a concentration of thought and energy upon Southern material activities.

Unless the people of Georgia know what material progress is being made in Alabama, Kentucky, Tennessee and Mississippi, for instance, they will not be stimulated by the competitive work of these other States. If the readers of Alabama papers do not know what the iron and coal people of Virginia, Kentucky and Tennessee are doing, they will be inclined to think that their State is leading the procession. Some time ago one of the leading business men of Alabama, largely engaged for many years in coal and iron operations, made a trip into Virginia and West Virginia. He was utterly amazed at the progress in those States in his own line. He had thought that Alabama was concentrating the entire energy of the coal and iron interests of the South to itself. His eyes were opened to find that in some respects other States were beating Alabama.

These conditions prevail all over the South. The daily newspapers can change the whole situation through the broad discussion and full information through their news columns about all of the work that is being done throughout the whole South looking to the advancement of this section, and by doing so they will help to quicken the thoughts of the people and turn their attention to a greater extent to the utilization of the South's resources. This section has boundless possibilities. Humanly speaking, there is no limit to the opportunities of the South for the creation of industries, the development of wealth and the employment of millions of people in addition to the population now here.

If out of the investigations connected with armor-plate making, with the location of a nitrate plant, with the investigation of the members of the Lake Superior Mining Institute, there shall come through the discussion of all of these questions by the newspapers of the South a broad awakening of this section to how small is its development compared with its possibilities, a mighty good will be accomplished. Here and there are to be found papers which are intelligently doing this work and which without any narrow provincialism are not only discussing the things that pertain to the welfare of their own States, but are publishing news pertaining to the whole South and are discussing all the problems connected with Southern upbuilding. These papers are exercising a great influence for good. May their number increase!

No Pusillanimous Peace.

[Here is the clearest and most ringing statement we have seen in any religious paper, though it is in direct line with what the Religious Herald has been saying since the beginning of the war. The Rev. Dr. R. H. Pitt, editor of the Religious Herald, realizes the issues at stake and knows that where moral issues are involved neutrality becomes immoral. Would that all others could see so clearly and had the courage of their convictions.—Editor Manufacturers Record.]

Caught in a tide of circumstances and swept along irresistibly, our great country seems slowly but steadily moving toward war. It is an amazing situation. The country, when the European war broke out, was not only at peace with all the world, but was cherishing and forwarding in many ways the ideals of universal brotherhood, and through its accredited representatives had made many overtures to other nations of the earth looking to international agreements which should either remove all prospect of armed strife or should make such prospect as remote as possible. America had no grudges to satisfy, no overleaping ambition, no lust of territory. We had been drawn into the Spanish war against our will and had emerged from that brief conflict with credit to ourselves and without injury to the high purposes which had animated and controlled us. It was hoped that the European conflagration, though it was spreading rapidly, might be confined, in the actual territory over which it swept, to Europe and some small portions of Asia and Africa, and that this great American Continent, or, at any rate, the United States and all the countries south of it, might keep out. In the earliest stages of the great world war, when it became necessary for the United States to declare formal neutrality, President Wilson accompanied these formal declarations with an earnest appeal to the citizens to abstain from everything that could in any way embarrass the Government in its attempt to maintain a neutral position, going so far indeed as to exhort them, unavailingly, of course, to be neutral in sentiment as well as in action.

Whatever judgment history may render concerning President Wilson as a leader, certainly he will never be charged with the lack of patience. We have no desire in any comment we may make upon passing events to fan the flames of righteous moral indignation burning in the breasts of all patriotic Americans against the rabid Teutonic countries, an indignation born of unnumbered, varied, insolent and unbearable insults, injuries and wrongs which we have suffered at their hands. A mere list of them, of murders of women and children at sea, of conspiracies against the peace and good order of our own land, conspiracies which headed up in the German Embassy at Washington, of contemptuous indifference to all moral standards heretofore accepted by civilized people, of violations of international hospitality—a mere list of these things is sufficient to test the patience of the most forbearing. We venture to say that nothing quite equal to this, which we have borne through these months, has ever happened in the history of the world. It is evident that we are not yet at the end, apparently we are only at the beginning of these exasperating disclosures. Enough already is known to make it clear that the German Embassy at Washington, with the smooth-tongued philosopher Bernstorff in charge, was a nest of conspirators and assassins, who plotted continually against the peace and dignity of our own land, who were involved in schemes almost without number for the destruction of property and the sacrifice of life. It is clear, also, at this time that many of these schemes were known to the President of the United States and his advisers. It is almost beyond doubt that President Wilson, in his anxiety to avoid war with Germany, withheld the announcement of the plot intended to involve us in war with Mexico and Japan until the German Ambassador and his entourage were safely embarked on the ship for which, at the request of our own Government, safe conduct was guaranteed. Wherever we turn in this checkered history we find President Wilson going to the extreme limit consistent with national integrity and dignity to prevent every incident which might precipitate armed conflict.

No sane man, certainly no sound and well-instructed Christian, desires war. Always horrible in the wild passions which it unlooses, in the carnage and death which it brings, in the harvest of horrors which it furnishes, in the griefs, confusions and innumerable disasters which follow inevitably in its train, always unspeakably dreadful, it is at this time, with its new methods and instruments of destruction, more diabolic than ever.

Yet war is not the worst thing possible. Slavery is worse. The utter loss of national honor and dignity and self-respect is worse. National difficulties and individual differences ought to be settled in the light of reason and of high moral obligations, and certainly all possible methods of this kind ought to be employed, and if war comes at all, it ought to come as the last resort. To this, which we conceive to be Christian doctrine, we give our whole-hearted allegiance.

Organized society, however, must protect itself. The main purpose of such organization is to afford protection for the weak against the strong, and all such organization presupposes and involves the use of physical force whenever it becomes necessary. Thus we have our policemen in cities, our sheriffs and constables and magistrates, our courts and jails and State prisons—in a word, all, or practically all, who represent the State in any authoritative way. Thus, too, for the time being, though we may hope and pray and labor for more ideal conditions, nations must protect themselves against their predatory neighbors, and when arguments and reasonings, carried to the utmost limit of patience and forbearance, fail, then nothing is left but resistance on the one hand, or contemptible and pusillanimous subservience and slavery on the other. We may as well say at once that for us death would be preferred above these.

We have said nothing thus far of what has for us a large place in our own thinking. The awful conflict in Europe has never seemed to us a mere struggle between nations with conflicting selfish interests and ambitions. The issues in that vast struggle are elemental, so elemental that the triumph of Germany would be the greatest calamity that has ever befallen mankind. For back of all her great and efficient military and social organizations is her philosophy, her scheme of life, her theory of society, her apotheosis of the State, with its submergence of individual freedom, and more and worse than all, her open and shameless abandonment of the eternal distinctions between right and wrong. There are many things in Russia, in France, in England, in Italy, and in all the other lands of the Entente which we should condemn, but as certain as we live these countries are at this day and this hour fighting the battle of humanity, of righteousness, and the only guarantee we can have of any long stretch of peaceful years for the peoples of the earth must be found in the overthrow and defeat of the German arms.

Ought we who have so much in common with the people who are now resisting Germany and with their main purposes, ought we who have so much at stake, to gather our skirts about us in pharisaic fashion and refuse utterly to lift a finger to bring a good issue out of this deadly debate?

For nearly a half-century Germany, with devilish cunning and almost preternatural skill and determination, has been arming and drilling and disciplining and training for the "day" when she should have Europe at her feet. Pan-Germanism is nothing less than a menace to mankind. It is idle to talk of the peaceful, thrifty, home-building and home-loving German people. We know their excellences and esteem them highly. But they have no influence, they utter no voice. The Prussian Junker is in charge, and has been in charge for decades, and if Germany should win in any decisive way, not only would Europe lie prostrate, while the Teuton's armed and brutalized legions swept on their errands of destruction through the conquered territory, but within the present generation America would have to reckon with these new masters of the world.

Hence, though we hate war and abhor it, though it would bring in its train sacrifices and privations the very thought of which makes us tremble, yet, as lovers of justice and of mankind, we should vastly prefer to see our own land bearing her faithful witness, at whatever cost, than to see the triumph of the Teutonic arms.

SOUTHERN MAYORS SOUND PATRIOTIC NOTE.

Emphatically Urge the Government Provide Adequate Navy-Yards and Naval Stations on South Atlantic and Gulf Coasts.

Savannah, Ga., March 15—[Special].—At the second annual convention of the Mayors' Association of the South Atlantic and Gulf States, held here March 13, 14 and 15, the members of the convention went emphatically on record in favor of adequate development of navy yards and naval repair stations on the South Atlantic and Gulf Coasts. Resolutions were introduced by Mayor T. L. Kirkpatrick of Charlotte, N. C., as herewith.

The resolutions were unanimously adopted by the convention and copies were transmitted to President Wilson, Josephus Daniels, Secretary of the Navy, and N. B. Baker, Secretary of War. The resolutions are as follows:

Whereas, We, the Mayors of the South Atlantic and Gulf States in convention assembled at Savannah, Ga., are profoundly moved by the realization of the gravity of the situation which now confronts our people and our government, and

Whereas, In the opinion of the General Army Staff and the Naval Board of the United States government, we are inadequately prepared and have insufficient protection to properly safeguard the liberty, property and lives of our citizens and

Whereas, There is no first-class naval yard and naval repair station at any point on the South Atlantic and Gulf Coast, where repairs can be made to a first-class battleship, and

Whereas, In case of war with any first-class power the result of a naval engagement might be disastrous to this country and might enable an invading fleet to blockade southern ports and to capture the Panama Canal, now therefore be it

Resolved, That we, the Mayors of the South Atlantic and Gulf States in convention assembled in Savannah, Ga., hereby call upon our President, Senators and Representatives in Congress, to immediately adopt such measures as will afford ample protection to the commercial and industrial interests and lives and liberties of the nation, and we further recommend that the plans which were outlined by the Naval Board of the United States, which were to provide ample facilities at the port of Charleston, S. C., for the building and repair of vessels of the United States Navy of the largest class, be adopted and carried out at the earliest possible time, and be it further

Resolved, That a copy of this resolution be given to the press, and that copies be sent to the President of the United States, the Secretary of War and the Secretary of the Navy.

TRI-COUNTY DRAINAGE SYSTEM COMPLETED.

Reclaiming 55,000 Acres of Arkansas Land With Drainage Canals at Cost of \$480,000.

Fifty-five thousand acres of land in Crittenden, Cross and St. Francis counties, Arkansas, have been reclaimed by the Tri-County Drainage System, completed at a cost of \$400,000. This property is now utilized for agricultural development, and the drainage district will construct highways to provide for transportation of agricultural products. About 25 per cent. of the acreage consisted of small lakes, now drained by canal, 50 per cent. of the remainder having been swampy and otherwise unfit for cultivation, but will now be available for farming.

The district was formed in 1914 and the engineering was in charge of Willis E. Ayres of Memphis with the following contractors: R. H. & G. A. McWilliams of Memphis and Chicago, the Pollard & Campbell Canal Construction Co. of Memphis and Omaha, the Canal Construction Co. of Memphis and Chicago. The total length of the canals is 100 miles; yardage, 4,100,000, the main channel being 60 feet wide at bottom, 100 feet wide at top and 10 to 20 feet deep. The main ditch is 10 miles long, with 60 miles of laterals. Subdrainage districts are contemplated by owners of nearby property. From \$30 to \$40 per acre is now being obtained for land in the new drainage district, about \$10 having been the previous price.

The 1917 convention of the Oil Mill Superintendents will be held in the Auditorium in Atlanta, Ga., June 13, 14 and 15.

The Revolt in Russia

By ROBERT STUART MACARTHUR.

[Rev. Robert Stuart MacArthur, D.D., is president of the Baptist World Alliance, representing all the Baptists of the world, and is probably the most widely known Baptist minister in the world. Dr. MacArthur has the most intimate, personal friendship with Baptists in every country of Europe and is familiar with conditions there. His comments upon the revolution in Russia are based upon a close knowledge of the situation in that country, and as a student of world affairs he is well equipped to speak with authority and special interest upon the Russian revolution and its effect upon the world's civilization.—Editor Manufacturers Record.]

The revolution in Russia is one of the most startling events in all history. It has virtually overthrown a dynasty which has existed since the year 1613. Romanoff is the name of an old Russian family, from which came the reigning dynasty of Russia. The first czar of this family was Michael Fedorovitch, who ruled from 1613 to 1645.

To those familiar with the inner history of Russia, it has been known for months that a revolution was soon to come. It would have come sooner, but that its leaders were extremely anxious not to lessen Russia's influence in the great war waged by Germany and her allies. This revolution was a serious jar to the doctrine of the divine rights of kings, czars and emperors. The overthrow of absolutism in Petrograd suggests its overthrow in Berlin. Shakespeare's words, "a soothsayer bids you beware the ides of March," must have an ominous sound in the ears of the German Kaiser. It is quite certain that Chancellor von Bothman-Hellweg knew what was happening in Russia when in the Prussian Diet he promised a larger degree of liberty for the German people; he virtually promised German democratization. The handwriting on the wall in Russia is clearly seen in Germany. Serfdom, feudalism and divine right see that their days are numbered.

It is certain that a new Russia is born. This glorious coup d'etat crowns long and weary years of struggle, suffering and praying. Frequently constitutional liberties have been promised Russia, as by the act of October 30, 1905. There is now almost a certainty that these hopes of liberty will be speedily realized. The causes which led to this revolt are well understood. The upheaval is directly due to the machinations of the zarina, who is a German, to Prottopoff, Sturmer and to other "dark forces." The czar is an easy-going and weak man. He allowed his German wife to be mistress of the court. It thus came to pass that the vile monk Rasputin, Sturmer and Prottopoff had their way so largely in court circles. In the early part of the war many army officers were decidedly pro-German in sympathy and action. One of these officers, General Masaydoff, was hanged for his disloyalty; other officers deserved a similar fate. Many of the barons of the Baltic provinces—some of whom I personally know—are of German descent and sympathy. They have largely controlled the officials of every department of the Russian Government. To this class belonged Sturmer. He succeeded M. Sazonoff, whom this writer met in Petrograd five years ago, and from whom he received very marked courtesies. M. Sazonoff was the warm friend of our distinguished ambassador to the court of Russia, Mr. Curtis Guild, by whom I was introduced to M. Sazonoff. He was an extremely able minister, a loyal Russian and a charming gentleman. These German barons pushed him out of office and forced the appointment of Sturmer. This latter official was one of the boldest of the reactionaries who ever held high office. He hated the republics of the world, the United States included. Some of these reactionaries will doubtless land in the vile prisons to which they have so often sent Baptists, Stundisto and other evangelical Christians.

Loyal Russians have ousted the Government in their desire to take the conduct of the war into their own hands. All liberty-loving Russians have long hoped and prayed for the coming of this glorious day. How distinctly I remember hearing one woman of noble birth say: "Oh, Lord, how long; how long must we wait for the dawning of this day." Thank God it has come. It seems almost too good to be true. The mosiyks, or peasant class, also with more intelligence than it is often supposed that they possessed, longed and prayed for

this day. This class represents from 75 to 85 per cent. of the population. They have heard much of America. They all know much of Abraham Lincoln; his name is a talismanic word in their ears.

The United States can render great service to Russian liberty by giving moral support to President Rodzianko of the Duma. He is aiming to control the wild demands of the radical extremists, on the one hand, and of the autocracy on the other hand. These autocrats will die hard. Some of them will strive to cause civil war, with all its attendant horrors. God save Russia at this critical hour from internal strife!

The statements of the Germans at the opening of the war that they were engaged in a strife to save civilization from the attacks of the "snub-nosed Slavs" seem now supremely ridiculous. Then Germany had much to say of "Russian incendiarism," of the "Russian Moloch, drunk with the blood of alien people." But Germany must now perforce remain silent on these subjects. She has herself become the Moloch of innocent women and children, and many of them Americans. Germany has been steadily going toward barbarism and Russia toward civilization.

One of the first results of this marvelous revolution will be the new life which will come to the Jews. Their life in Russia was unspeakably worse than their Babylonian captivity. The Czar who has just abdicated must have credit, however, for having given the death-blow to the vodka traffic. He also suggested the first Hague Peace Conference. His grandfather, Alexander II, nearly two years before Mr. Lincoln's emancipation proclamation, issued his ukase giving liberty to the serfs. But a larger liberty will come now to all. Doors of prisons will now be opened, and political and religious prisoners will be set at liberty. Madame Breshkovskaya, who has been 30 years in exile, will now be liberated. She is 73 years old, and is the daughter of a Russian noble. She collected \$10,000 in America for her liberating work. She has twice escaped, but in 1910 was resented to Siberia.

Many brave, heroic and consecrated Baptists, who have long been confined in Russian dungeons, will now be set at liberty. I made most earnest appeals to the ministers of the Czar five years ago on behalf of my Baptist brethren, but since then more of them have been sent to exile and to prison. What joy is theirs today! I shall go as soon as possible to Russia to share in their joy. Paul N. Milukoff, now Minister of Foreign Affairs, is a truly remarkable man. A few years ago he delivered an address in Carnegie Hall, New York. He was also a lecturer in the University of Chicago. He is master of 15 languages. Professor Lvoff is also a man of great ability and of equal worth. It is truly marvelous that the Russo-Greek Church is now to be a free church in a free state. How wonderful it all is! It is glorious to be alive amid these great events. God save and bless mighty Russia!

GREATEST YEAR OF U. S. STEEL.

\$1,231,473,779 the Volume of Business for 1916, an Increase of Approximately 70 Per Cent.

The fifteenth annual report of the United States Steel Corporation, which covers the year 1916, shows that the volume of business during the period broke all records since the formation of the corporation, it having reached a total of \$1,231,473,779, or \$504,790,190 more than in 1915, an increase of nearly 60½ per cent. The next largest year was in 1913, with a volume of business aggregating \$796,894,299. The total earnings of all properties for 1916, after deducting all expenses

incident to operations, including ordinary repairs and maintenance, employee compensation under merit plan and allowance for Federal taxes for 1917, but exclusive of interest for subsidiary companies, were \$342,997,002, an increase of \$202,747,026, as compared with 1915 or more than 144 per cent. Balance of earnings after deducting interest for subsidiary companies was \$333,574,177, and the net income after deducting charges and allowances for depreciation and for sinking funds was \$294,026,564. From this is deducted interest on United States Steel Corporation bonds (about \$21,603,000) premium paid on bonds redeemed, (about \$1,016,000), and dividends amounting to about \$69,696,000, leaving a surplus net income for 1916 of \$201,835,584, as compared with \$44,260,374 for 1915, an increase of considerably more than 400 per cent.

In reviewing the tremendous operations which resulted in the marvelous total of business, Chairman Elbert H. Gary uses most modest language, notwithstanding that its bulk looms greater than the revenues of most, if not all national governments in the world in times of peace.

Judge Gary says that the active demand for iron and steel products exceeded the capacities of the mills and, consequently prices advanced through the year. The tonnage of unfilled orders of the subsidiary companies December 31 was 11,547,286 tons of rolled steel products, the highest total ever recorded in the history of the corporation, and exceeding by 3,741,066 tons, or 47.9 per cent., the unfilled tonnage at the close of 1915. "The character of the order book is excellent," he remarks. "The bulk of the tonnage covers the needs of buyers for definite contract work or their requirements for operation and maintenance, thus encouraging the belief that the operation of the mills at their full capacity will be continued for at least the greater part of 1917."

The aggregate tonnage of rolled steel and other finished products shipped to both domestic and export trade was 15,542,088 tons, an increase of 3,860,201 tons, or 33 per cent., as compared with 1915 and the total value of this business, covering all of that tonnage, was \$853,264,457, an increase of \$366,912,403, as compared with 1915, or 75.4 per cent. Of this \$150,463,290 was export business.

During the year three advances of about 10 per cent. each were made in the wage rates of nearly all of the employees. Thus, the rates in effect at the end of 1916 were about 33 per cent. above the rates at the end of 1915. The average number of employees was 252,668, an increase of 61,542, or over 32 per cent. The total of pay rolls was \$263,385,502, an increase of \$86,584,638, or 49 per cent.

The consolidated general balance-sheet shows that the total assets of the United States Steel Corporation on December 31 were \$2,083,027,974, including the property account, net, at \$1,472,623,666.

North Carolina Working to Expand Livestock Industry.

[Special Dispatch to Manufacturers Record.]

Wilmington, N. C., March 19.

The State-wide livestock exposition and conference March 28 and 29 will be one of the most constructive meetings ever held in the South and the first of the kind ever held in the State. It is being promoted by the Wilmington Chamber of Commerce and the Southern Settlement and Development Association of Baltimore. The meeting has been extensively advertised, and the transportation lines are co-operating effectively in securing the exhibits and creating interest for a large attendance.

Governor Thos. W. Bickett of North Carolina and Mr. L. I. Gulon of the Federal Farm Loan Bank of Columbia, S. C., will be among the speakers. Representatives from the United States Department of Agriculture and State Department of Agriculture will speak on the different phases of the livestock industry.

Indications for a successful conference are excellent at this time, as the people realize that greater prosperity lies in the development of unused and idle lands.

H. B. BRANCH, Secretary,
Wilmington Chamber of Commerce.

The Catawba (N. C.) Ginning Co. contemplates building a knitting mill.

Lake Superior Mining Experts Visit Birmingham District

GREATLY IMPRESSED WITH PRESENT DEVELOPMENTS AND PREDICT
WONDERFUL FUTURE AS IRON AND STEEL CENTER.

[Special Correspondence Manufacturers Record.]

Birmingham, Ala., March 17.

The twenty-first annual convention of the Lake Superior Mining Institute, held here this week, will long be remembered as one of the most interesting, instructive and successful meetings since the organization of this body, and those in attendance were loud in their praises of the cordial hospitality of the local committee and the opportunity given the visitors to thoroughly inspect every phase of the vast iron and steel-making resources and developments in the Birmingham district.

This Institute is composed of those having to do with all the various phases of mining operations in the Lake Superior ore fields, including mining engineers, officials, superintendents and foremen of the mining companies and representatives of machinery and equipment firms. Meetings are held at regular intervals at the different Lake Superior mining districts for the purpose of studying and discussing mining problems, but in recent years, in order to broaden the knowledge of its members, meetings have been arranged in other iron-mining and manufacturing districts, so that they could become personally familiar with the development and extensive operations in iron and steel manufacture in various parts of the country.

When an invitation was extended by the iron and steel men of the Birmingham district, through General Manager Edwin Ball of the Tennessee Coal, Iron & Railroad Co., and Manager Charles T. Fairbairn of the Republic Iron & Steel Co., to hold its annual convention in Birmingham this year it was accepted, and a party of nearly 150 from the Lake Superior district came to Birmingham in a special train to have a three-day meeting.

On their arrival here, after stopping for a day at Chattanooga to view the historical and industrial points of interest in that city, the members were met by a committee of representative iron and steel men of Birmingham who had made complete arrangements for a thorough tour of inspection of the iron ore and coal mines, limestone and dolomite quarries, and iron and steel mills in the district. In order that the visitors might have a comprehensive idea of the scope and importance of the resources of this section, they were each presented with an interestingly compiled booklet entitled "A Little Journey in the Birmingham District," which set forth in an instructive way the features of this section, illustrating many of the principal plants and explaining the points of interest that would be viewed in the trips around the district.

On each of the three days the Institute was here visits were made to various points of interest. All of the first day was devoted to one of these trips, a special train leaving in the early part of the morning. The first point of interest was the Alice furnace, where basic iron was first made as a market product. The journey soon brought in view the red-ore mines on the mountain-side, extending on a line approximately 12 miles long and where active mining operations are conducted by the Tennessee Coal, Iron & Railroad Co., the Woodward Iron Co., the Republic Iron & Steel Co., the Gulf States Steel Co. and the Schloss-Sheffield Steel & Iron Co. Stops were made at several of these mining properties to give the visitors an opportunity of thoroughly inspecting their methods of operation, as well as the equipment of the various plants and the welfare work which the various companies are conducting in the interests of their employees.

As the train proceeded from one inspection point to another there were passed blast furnaces, rolling mills, by-product coke ovens and benzol plants, rail and wire mills, fire-brick and chemical plants, cast-iron pipe and various other iron-working and diversified industries, all of which gave the visitors some idea of how broadly this section is utilizing the complete resources of the district.

A stop was made for lunch at Bayview, by the side of the big impounding reservoir lake created by the construction of a dam two miles below, and which covers

a submerged area of 325 acres, providing a capacity of 2,500,000,000 gallons of water. At Bayview the Tennessee Company is opening up a new coal mine covering an area of 23,000 acres and having estimated deposits of coal to the extent of 15,000,000 tons. The plant is being built for a daily output of 2000 tons, and will employ 750 men. In connection with this development the company is laying out a model town with attractive cottages, community stores, hospitals, school-houses and other conveniences, all of which will contribute to the comfort, health and enjoyment of its employees.

After leaving Bayview a stop was made at Edgewater, where was inspected the surface plant of the largest coal mine in Alabama. This mine covers an area of 4000 acres and contains approximately 30,000,000 tons of coal, the daily capacity of this plant being 3000 tons.

A by-product coke-oven plant was next inspected where the visitors had an opportunity to see the modern method of making coke and at the same time secure valuable by-products for various purposes.

The day's trip was concluded with a visit through the American Steel & Wire Co.'s plant, where could be seen in the various departments the complete manufacture from the bloom of galvanized wire, nails, barbed-wire fencing, woven-wire fencing and staples.

The second day's journey extended through a number of furnaces and steel mills, the first stop being made at the Thomas plant of the Republic Iron & Steel Co., where three furnaces are located in connection with the largest group of beehive coke ovens in the South, containing 910 ovens. Nearby was also seen the company's dolomite quarry, which supplies the fluxing stone for its furnaces.

Ensley was then visited, where there is a group of six blast furnaces with an annual capacity of 780,000 tons. During normal conditions the iron from these furnaces is used direct in steel-making, but this plant is also equipped with two pig-iron casting machines which provide for basic or machine cast foundry iron. Here the visitors saw the molten iron pass from the furnaces to the steel mills, where the Duplex process is used for blowing the iron in 20-ton converters. These converters perform the usual Bessemer function of eliminating, partially or completely, the silicon, manganese and carbon, the phosphorous and sulphur being later removed in the open-hearth furnaces. After being blown, the visitors saw the metal transferred to the open-hearth furnaces, each of which have 100 tons capacity. The entire open-hearth plant at Ensley has an annual capacity of 950,000 tons.

The next inspection was of the 44-inch blooming mill which furnishes blooms for the rail and billet mills. This blooming mill has produced as much as 62,000 tons as a monthly record, while the record of the rail mill is 46,000 tons.

Then followed the visit to the rail mill, where rails were being made from the bloom to the finished product, ready for shipment.

In all of the plants inspected, whether ore mines, coal mines, blast furnaces or steel mills, the visitors were especially impressed not only with the order and cleanliness of every department of the plants, but the various safety devices to protect the workmen and the facilities provided for their comfort. At each of the mines were located extensive, well-arranged sanitary bathhouses with separate sections for white and colored employees. The surrounding grounds were all neatly laid out, with grass plots, trees and shrubbery, giving the whole an attractiveness which appealed very strongly to the visitors. At no point visited could there be seen any evidences of disorder or carelessness, because every place was kept in a neat, cleanly fashion, which bespeaks of the thorough and painstaking manner in which these various industries are conducted.

On the last day opportunities were given the visitors to make underground trips in several of the mines, to

inspect a cast-iron pipe plant and to see what was unusual to most of them, a modern cotton mill in operation.

Between the visits the regular meetings of the Institute were held, at which a number of papers were presented and discussed covering various features of iron-ore mining in the Lake Superior district. At a business session officers were elected for the ensuing year, these being as follows: President, Charles T. Fairbairn, Birmingham, Ala.; vice-presidents, Wm. D. Cavellery, Houghton, Mich., and M. E. Richards, Crystal Falls, Mich.; managers, Alexander Chisholm, Ironwood, Mich.; E. I. Grierson, Calumet, Mich., and R. W. Bachelder, Nashauk, Minn.; treasurer, E. W. Hopkins, Ironwood, Mich., and secretary, A. J. Yungbluth, Ishpeming, Mich.

Resolutions were adopted expressing the gratitude of the Institute for the cordial hospitality and courtesy extended by the Birmingham hosts during the meeting, and also favoring universal compulsory military service along the lines recommended by the General Army Board.

In introducing this latter resolution, Chairman J. R. Van Evera pointed out that concerted efforts were being made in this country against the plans for military preparedness, and he thought it was the duty of the Institute as well as other representative business organizations to take their stand in favor of measures that would provide adequate protection for the country in time of war.

This resolution was as follows:

Whereas, it is the most undemocratic in its operation, because in times of necessity the patriotic citizen is compelled under this system to perform military duties in the protection and defense of our country, while the many who are not fully alive to the duty they owe to the country escape the performance of such duty; and,

Whereas, we believe that all citizens who claim and enjoy equal rights before the law should be compelled to perform equal service in defense of the law and of our nation; and,

Whereas, each and every head of our army from General George Washington down to the present Chief-of-Staff, General Scott, have pointed out the radical defect in our volunteer system, and the need of a change which will enforce the equal distribution of duties; and,

Whereas, most recent developments have clearly demonstrated that other nations do not hesitate to take advantage of a weak defensive condition, and to violate our national rights both at home and abroad; now, therefore, be it

Resolved that the Lake Superior Mining Institute, an organization composed of more than five hundred members, in annual convention assembled, declare it to be their deliberate judgment that the Congress of the United States should without delay provide by law for universal compulsory military training, and universal compulsory military service in our army and navy, along the line recommended by the General Army Board, and that the President should sign and put into prompt execution such a law; and, be it further

Resolved, that the Secretary of this Institute be and is hereby requested to send copies of this resolution to all Senators and Members of Congress representing the States of Michigan, Wisconsin and Minnesota, and that he be further requested to give this resolution as wide publicity as possible through the press.

Progress of Mining in Lake Superior District, 1894 to 1917.*

By CHAS. E. LAWRENCE, President Lake Superior Mining Institute.

The securing of iron and copper ores from nature's storehouse among the rocks located in Michigan, Wisconsin and Minnesota, contiguous to Lake Superior, continues with unabated zeal.

First, due to rich quality.

Second, on account of large quantity.

Third, and primarily, the ratio of value received from the cost to take these ores out of the ground and the sale of them in the open market.

Comparatively, when the Institute was organized, in 1894, a total of approximately 7,700,000 tons of iron ore was secured; the past year of 1916, 66,500,000 tons, or a growth of nine times.

The tonnage of ore has varied from year to year, according to demands, yet, with this product being moved, the exploration and development has kept up the pace, and today there is more iron ore in sight for the future than this depletion would seem to indicate, and can be duplicated many years in the future.

Copper ores secured in 1916 approximates 350,000,000 pounds.

With this as a basis, which demonstrates why iron

*President's address at annual meeting, Birmingham, Ala., March 13-15, 1917.

and steel remain the commercial king in the economic world, and copper a close neighbor, it is with no small amount of personal pride that we review in a resume what has brought about and kept this prestige.

From the year 1870 to 1895 Lake Superior mining went through the transition of changing from hand tools to machinery in the mining of ores.

From hammer, hand drill, pick and gad, with the use of lard oil and wicks for lights, we have come to use at present air power drills of piston type, in many forms, to suit the kind of rock or mineral worked, with acetylene and electric lights. Comparatively, the ground broken by the same gangs of men today will show a gain of from 50 to 100 per cent. Tram cars formerly pushed by men and mules are now handled by motors, electric and air, in trains of five to ten cars per trip.

Boilers and hoists have kept pace with the greater production brought to shafts, horse-power of each and higher pressures of steam serving this demand. Compressors formerly supplying 40 to 50 pounds of air pressure are not doing their duty unless double this amount is given. Electric hoists and pumps now coming into use in many places show economy.

Steam shovels of 25 tons weight have been substituted by those of 75 to 90 tons, and lately some of 300 tons. Steam shovels have done more than any one thing in mine equipment to add to the enormous tonnage handled from Lake Superior, and to give to the United States its present standing in the iron and steel world.

Shafts in early days were of shallow depth and narrow compartments, permitting only small skips.

During the past 23 years we have devoted a large amount of thought to this subject, with results showing shafts in compartments, two of these for skips, hoisted and lowered in balance, of five to ten-ton variation; pipe and ladder compartments; also a man and timber cage, making necessary large level openings to facilitate the easy movement of material brought through its use, this including pockets or storage bins for ore.

Formerly these were exclusively of timber, but now many are made of steel sets and cement lath, and others of cement alone, to make fireproof and avoid constant repair from decaying timber.

The head frames, formerly of square timber and low in height, now run to steel, varying from 100 to 150 feet in height, permitting the hoisted material to be loaded into railroad cars.

Scientific knowledge and the Michigan School of Mines have been the largest auxiliary factors to guide and lead the way to success in the several departments named.

Geology is coming to be read and understood in detail, like the reading of books. Science of force, through air, steam and electricity, are humble servants daily used and mining colleges are training the future managers on broad, practical and economical lines.

The production of \$200,000,000 iron ore value and \$95,000,000 copper value in 1916, after 50 years of continuous operation and greater growth, tells a story demanding the historian to aid in the recording of the details. The distribution of this 50 years' annual wealth has spread to the four corners of the earth, stimulating activity wherever mining is followed. The molten metal from the ore, while changing always into products of higher value, has made the "hum of industry" and the "wheels of progress" a cheerful song of joy, calling the world to our dens and making the United States, in the short period of 50 years, a noted star in the realm of nations, due alone to the crude ore taken from nature and changed into manufactured metallic forms of value, so that the banks are bursting with money at very low rates of interest, and the per capita is greater than at any time in history.

We turn from this rosy picture to the human element entering into the product. Without a large unit of daily output costs will go up, but with tonnage hoisted from shafts, varying from 500 to 5000 tons per day, a basis is given around which an organization can be formed, with departments which will dovetail into each other and give a compact whole, for low cost.

The employer, represented by foremen trained to details, watches his men and their work consistently, and guides the various movements to a completed whole. The men under his care have come mostly from all nations in Europe, beginning in the north and extending to the south, entirely new, and have in most cases been absolute children as far as knowledge of mining is concerned. This factor has been trained and drilled to se-

cure a product and cost that is amazing, and could only be done by wise and careful guides.

In the doing of this, "safety first" for the past five to ten years has been the prominent signboard at large installations, and this has given efficiency or a net result of satisfaction.

Assisted in various ways, the training of men is going on continuously through schools, day and night, through churches, moving-picture shows and social relations; also trained experts sent out by the Bureau of Mines.

With this record behind to stand upon, a future lies ahead demanding courage at the helm, and with wise, trained workers greater prizes are sure to be ours, and these should be confined, primarily, to harmony of the workers or the human element, more than to any department, and made a special study of, to gain in the ultimate end a better citizen, which makes for a better government to the rising generation.

Nature's wealth, transferred from the ground, keeps moving in manufactured forms of details, but this, in turn, is making over the human being, giving a product in the living man, something always better than the previous generation.

In this alone is pleasure and joy.

How the Birmingham District Impressed Some Lake Superior Mining Men.

As the members of the Lake Superior Mining Institute had an opportunity to study at first hand the resources and developments in the Birmingham district, they were loud in their praises of the remarkable results that have already been obtained, but especially of the great future before this section.

These men are engaged only in one phase of the iron-making business, that of getting out the iron ore. Most of them have not been familiar with the various steps from the iron ore to the finished product, and consequently a section having the complete resources of iron ore, limestone and coal, providing all the raw materials necessary for iron and steel manufacture and carrying these through to many kinds of finished products, appealed to them with special interest.

In order to get an idea of the impression which the Birmingham district made upon the visitors, expressions were obtained from a number of the members, which reflect the general opinions which the visitors carried away with them of Birmingham's iron and steel-making resources and industries.

Charles E. Lawrence, retiring president Lake Superior Mining Institute, and general superintendent of Pickands, Mather & Co., Palatka, Mich.:

"Thirty-two years ago I was in this district, and wrote an article on it, and then saw the possibilities here. This is the first time I have been back since, and the wonderful developments, more than fulfilling those predictions, were even to me a great surprise.

"This trip, as arranged by the iron men of the Birmingham district, was of such a character as to be a surprise to all, and to myself, personally. This covered the mine operations on the surface and their general showing in the detail operations, also the general physical appearance of the properties looked over. Neatness and order were in evidence everywhere. This has its basis only in well-organized forces of employees understanding their work and doing their duties. This can only result in efficiency. As the details of mine equipment are of absolute necessity in being unified to produce the ore or coal needed, it can only come from a faithful employee, and that this is appreciated by the companies is evidenced by the treatment and the higher value placed upon the human element as exemplified by the nice homes, good schools, churches, clean yards and entertainments furnished by clubhouses and playgrounds for school children, all reaching into the home life of the employee. This is the obligation of all large employers of labor, and must become more so in the future. The members of the Institute are loud in their praises of the courtesies and kindnesses shown in many forms, and only wish to have the opportunity to return the compliment by entertaining the Birmingham men in the iron and copper mining section of Lake Superior at an appropriate time in the future.

"Nature has done so much for the district in the way of raw materials that it stands out as self-evident as a field that should be conserved for the future, as market conditions must surely make it receive consideration by those in the business in other districts, and this prepares

us to think seriously of our place in the mining world. We must revise our estimate and position, because the future obligations, being brought about by the European war, which is exhausting the countries in finance, physique and mental losses, must make the United States, and especially this district, so near to the seacoast, the only natural district for the beginning of new opportunities to supply the outside world."

Ex-Governor Chase S. Osborn, L.L.D., Sault Ste. Marie, Mich.:

"I have visited the principal mining fields of the world. Nowhere have I been more interested or more indelibly impressed than with the Birmingham iron ore, coal and limestone fields. It is, of course, interesting in a geological way, but most particularly its economic aspects appealed to me. As long as the United States possesses such fields and the genius and capital to develop them in an efficient manner, and without wastefulness, either of human energy or material, just that long will the country be great and maintain its material self as the chiefest nation in the world. Everywhere I noticed a vieing effort in the direction of conserving the human factor and improving it, with the work of winning the wealth from the earth. The companies supply their men with every inducement to ambition and with every comfort of life. The employees have churches, schools, clubs, playgrounds, baths and all that has an influence upon their material and ethical welfare. I was struck with the statement of President Crawford that they had engaged veterinary dentists for the 800 mules owned by the Tennessee Coal, Iron & Railroad Co., and thereby saved \$10,000 the first year, not to speak of the comfort and enjoyment given to the mule! This led President Crawford to investigate the condition of the teeth of the children and workmen, with the result of engaging a staff of doctors of dentistry, who watch and repair and keep in good condition the teeth of not only the workmen, but of their children, boys and girls as well. In other words, in the Birmingham field it is becoming as advantageous to be a boy, a girl, a man or a woman as it is to be a mule! When this lesson of the Birmingham district is learned all over the United States and the world, it will have a meaningful result. Undoubtedly the Birmingham field is in its infancy. If capital is not driven out by unfair legislation and impossible conditions, the development of the wealth of Alabama will have no limitations and it is fair to say that 90 per cent. of it will remain in Alabama, no matter who does the work."

John M. Bush, superintendent Cleveland Cliffs Iron Co., Ishpeming, Mich.:

"This is our first visit to the South, and we have enjoyed every minute of our stay. The kind hospitality of the Southern people has been greatly appreciated by our party.

"I am thoroughly impressed with the wonderful natural resources of the Birmingham district, and predict a great future for it as soon as it becomes more thoroughly developed. It appears that the working up of the ores of the district into finished material is due for a great advancement, as the fact that the iron ores, coking coal, limestone and other minerals are produced in the immediate vicinity. We predict a great future for the district.

"I was particularly pleased to hear the people of Birmingham express themselves so favorably about the present operating companies, and particularly, they seem to be very much pleased with the United States Steel Corporation, who now controls the principal operations in the district, and they say they hope that no impediment will be thrown in their way to prevent the continued progressive development of their industries."

J. R. Van Evera, secretary and treasurer, Stephenson Charcoal Iron Co., Marquette, Mich.:

"I have read a great deal in the iron and steel journals about what was being done in the Birmingham district, and in that way derived some information. But a visit here has been a revelation to me, as I did not fully appreciate the magnitude of the operations being conducted here, neither did I have an adequate idea of the great future which is ahead of this district. The splendid resources in raw materials is bound to make this district grow for many years to come.

"The work that is being done here in the nature of welfare work and to make the living conditions of the laboring classes as comfortable as possible compares favorably with that of any district I have ever visited. Great attention seems to have been paid to hygiene and environment, and all the locations had the appearance

of care and attention to the surroundings and for the comfort and pleasure of those employed about the various plants.

"What has interested me most on this trip is the people I have met in Birmingham and vicinity. We, people from the far North, have heard for many years of the splendid hospitality of the Southland, but it took the personal contact to fully appreciate that this reputation of the South is more than justified. We have been treated royally wherever we have been, and will go back home with very happy recollections."

Frank H. Haller, superintendent Osceola Consolidated Mining Co., Calumet, Mich.:

"It would require more than a few words or a brief interview to express my opinion of the Birmingham district and of the admirable body of men I have met here. Such boundless gifts of nature few districts have been blessed with; for these the people, of course, claim no distinction. But for having found and developed them in so efficient a manner the mining men of the community are deserving of the greatest praise."

"Our trip to Birmingham has been an education as well as a great pleasure. The present success of the mining, metallurgical and manufacturing industries is wonderful, and I am sure the future has still greater triumphs in store for the operators in this community."

A. J. Yungbluth, secretary Lake Superior Mining Institute, Ishpeming, Mich.:

"I am glad of the opportunity to express my impression in regard to the visit of the Lake Superior Mining Institute to Birmingham. I was more than surprised at all that we have seen here. The cordial reception extended to us by the people of Birmingham has made our visit most pleasant. The visit to the mines and mills has been most instructive. I feel more than repaid for the trip from the North by the many interesting things I saw, and am sure that I voice the sentiments of our members in this expression. The neatness of the houses and grounds of the working people is worthy of more than passing notice. This applies also to all the industrial plants we visited. I am sure our members will remember this trip with much pleasure."

D. H. Campbell, Iron River, Mich.:

"I must confess that the splendid hospitality extended the Institute members leads us to view everything of or from Birmingham most favorably, but we would be indeed blind not to recognize that widely as Birmingham and its resources have been advertised, a close inspection fully substantiates all claims. The tremendous ore beds, many of which are self-fluxing, so situated that they can be cheaply mined, the adjacent vast fields of excellent coal, both in a climate where the costs of living are low, assure the perpetual production of iron at minimum cost. In the development of the South and Southwest, requiring constantly increasing tonnage of iron, the products of Birmingham are destined to take a leading part. With the certain increase of iron production and the increase in allied industries, that for economy of production must locate close to sources of supply, the city of Birmingham has before it tremendous growth, and may be destined to become not the 'Pittsburgh of the South,' but to relegate that city to the position of the 'Birmingham of the North.'"

Natural Gas for Corpus Christi.

Corpus Christi, Tex., March 12—[Special].—C. L. Witherspoon of Corsicana, the owner of a natural-gas well eight miles from Corpus Christi that since September, 1915, has been producing better than 5,000,000 cubic feet of gas daily, has been granted a franchise to pipe and sell natural gas in Corpus Christi. The franchise is designed primarily to accommodate the industrial plants of the city. Maximum rates allowable under the franchise range from 50 cents per 1000 cubic feet for domestic purposes to 15 cents per 1000 feet for industrial plants using more than 50,000 cubic feet daily.

The gas is to be brought from the well to the city limits in 4½-inch cast-iron mains, with a 300-pound pressure at the well and 25-pound pressure when received at the city limits. The capacity of the pipe line will be 4,400,000 cubic feet each 24 hours.

The Chamber of Commerce, C. C. Ward, secretary, Mooresville, N. C., is interested in plans for a \$10,000 knit goods manufacturing enterprise.

Future Movements of Government Boards To Be Made Without Public Notice

WAR CONDITIONS HAVE BROUGHT CENSORSHIP ON ALL INFORMATION THAT MIGHT BE OF SERVICE TO POTENTIAL ENEMIES—RECENT VISITS OF NITRATE AND ARMOR-PLATE BOARDS.

Washington, D. C., March 19—[Special].—The imminence of war with Germany as a result of the sinking of three American steamships has moved the heads of the War and Navy Departments to clamp down a news censorship which in point of impregnability rivals the conduct of the executive departments of the most secretive of the European belligerent governments.

Heretofore, even subsequent to the breaking off of diplomatic relations, the War and Navy Departments have given out freely all information except that which might be of service to our potential enemies. Since it is realized that war with Germany is now a foregone conclusion, however, all publicity is practically suspended.

Inquiries made by the correspondent of the MANUFACTURERS RECORD today were illustrative of the rigidity of this censorship. Although no possible advantages could have accrued to any foreign government in knowing the itinerary of the inter-departmental board, which shortly will make its second trip investigating sites for the location of a Government nitrate plant, inquiries directed to this end met with no success. The

same impasse was reached regarding information of any importance as to the intentions of the armor-plate board. This board returned to Washington today from its latest trip, but all efforts to secure any knowledge of its future plans were adroitly evaded.

It is known, however, with regard to the inter-departmental board for the selection of a site for the nitrate plant, that this board must leave within the next four or five days for its second and last trip. It is intended that this board will arrive back in Washington by April 16, the date of the convening of Congress, according to present plans. This will necessitate an early departure, as it is intimated that the trip will occupy at least two weeks.

Colonel Keller, the engineer officer in charge of preparing the itinerary of the trip of the inter-departmental board, said today that no itinerary had been completed, and that even if it had been, it would not be given out, except under the authorization of the Secretary of War himself. It is probable that no announcement of the locations to be visited by the board will be made public until the members leave on their next trip.

Upper Cumberland River Advocates Heard at Nashville.

Nashville, Tenn., March 15—[Special].—At the Nashville meeting of the Inter-Departmental Board on the establishment of the \$20,000,000 Government nitrate plant, a delegation from the Upper Cumberland River made a presentation of the claims for the Cumberland River site. L. E. Bryant, a coal operator of Roberta, Tenn., stated that he could offer the cheapest electrical power in the country on the Cumberland River. He said that waterpower in the main river at Bernside could be developed to the amount of 70,000 K.-W. and in the south fork of the Cumberland River, to 55,000 kilowatts.

Capt. A. B. Massuy, of Bernside, Ky., also spoke in favor of the Cumberland River.

The board understood very well that everybody in Nashville had conceded that the Muscle Shoals location was superior to all others, but as the meeting at Nashville was held for the purpose of hearing advocates of the Upper Cumberland River site, the board announced that it was not on the program to hear anything further from Nashville people as to the merits of the Muscle Shoals location.

Louisville Cites Location, Availability of Raw Materials, Power Possibilities of Its Falls and Other Advantages in Claims for Nitrate Plant.

Louisville, Ky., March 14—[Special].—Its highly advantageous location in all respects, the practicability of utilizing the falls of the Ohio River for power, the availability in the immediate vicinity of inexhaustible stores of raw materials, cheap coke, low cost of manufactured power excellent labor conditions and the large adjacent market for nitrate for fertilizing purposes were cited by Louisville in presentation to the Federal Nitrate Board of this city's claims for selection as the plant site. Secretaries Baker, Lane and Houston surprised the committee which had prepared the "case" for Louisville by arriving in the city a day earlier than expected. Donald McDonald, vice-president and general manager of the Louisville Gas & Electric Co., who was to have addressed the board, was out of the city, and this left discussion of Louisville's claims to those who had not expected to be called on. The board, however, asked that Louisville file briefs in support of its claims, and this will be done. An hour's hearing of oral discussion was given.

Tampton Aubuchon, manager of the Louisville In-

dustrial Foundation, cited the power possibilities of the Ohio River, which could be utilized to the extent of 50,000 horse-power by expenditure of \$2,000,000 and increased to 100,000 horse-power by a \$5,500,000 outlay, while the Louisville Gas & Electric Co. is in position to supplement the power furnished by the river during periods of insufficient flow. Louisville railroads could easily double the 75,000 daily freight tonnage without congestion, and terminal facilities could be extended indefinitely. There are 26,000 industrial workers in the territory, and the city has no strike history. Hard calcium limestone, averaging above 95 per cent., can be delivered at from 65 cents to \$1 a ton by water, while many of the Western markets are served by coke shipped through or from around Louisville. Central Kentucky is producing quantities of phosphate rock. Living conditions in Louisville are excellent, death rate low, living expenses low, etc. The area within 500 miles of Louisville is the oldest farming section of the country, and the need of fertilizer greatest, the farm values making 45 per cent. of the country's total and the area 43 per cent.

C. Lee Cook, manufacturer, developed the hydro-electric possibilities of the river; declared that Louisville had been free from freight congestion during the past year, and stated that detailed estimates of cost and operation of the nitrate plant would be included in the briefs to be filed.

Major George R. Spalding, United States engineer at Louisville, confirmed statements that the present dam makes it possible to generate 50,000 to 75,000 horse-power during 10 months in the year, while it is now proposed to raise the Louisville dam to a height which would make 100,000 horse-power available. The annual floods, Major Spalding thought, would not stop manufacturing operations, although if absolute certainty were required an auxiliary plant with 100,000 horse-power capacity would cost \$4,000,000.

To produce electricity by water-power the cost per horse-power per annum would be about \$12, while, with coal at \$1 to \$1.25 delivered, the cost would be \$26. L. S. Streng, chief engineer of the Louisville Gas & Electric Co., stated his company could supply electricity at 5½ or 6 mills per kilowatt hour during winter months and at 4 or 4½ mills in the summer months.

William Heyburn, president of the Belknap Hardware & Manufacturing Co., brought out the point that Louisville is the center of both the Kentucky and Indiana limestone belts. The dam at the head of the falls could be utilized as a cofferdam while the plant was being constructed on solid rock beds below, he pointed out, and he urged that, in case the principal plant goes elsewhere, the Government establish a \$2,000,000 experimental plant here. He emphasized the enormous

sales that could be made to surrounding farm territory of fertilizer.

C. C. Hieatt, a leading real estate man, detailed living conditions and stated that homes in desirable localities could be bought on easy terms, while lots at \$12 a front foot were readily available.

West Virginia Presents Claims for Consideration at Meeting Held at Wheeling.

Wheeling, W. Va., March 15—[Special.]—Strong arguments for the location of the proposed \$20,000,000 Government nitrate plant in the upper Ohio Valley were set forth on behalf of the Ohio Valley Chamber of Commerce at a public hearing held in the Federal courtrooms here Wednesday before Secretary of War Baker, Secretary of Interior Lane, Secretary of Agriculture Houston, Gen. W. M. Black, chief of United States Engineers, and other Government officials. The brief for the valley was presented by Charles M. Ketchum, secretary of the Chamber of Commerce and the local Commercial Association, who pointed out the manifold advantages offered in the Ohio Valley for the manufacture of nitrates by the cyanamid process, and backed his statements by an array of figures based on the latest and most competent authorities.

For the fixation of a unit of nitrogen, he declared, the arc process requires from five to six times as much power as the cyanamid method, the production of 180,000 net tons of nitric acid per annum demanding 540,000 continuous horse-power by the former and 100,000 horse-power by the latter. To demonstrate the truth of this assertion he related the experience of a British company which is now producing nitric acid by the cyanamid process in Entente countries, and he cited the data derived from actual workings and recently given before the American Electrochemical Society to support the contention further. He followed this with a statement as to the respective merits of steam and water power for the generation of electricity, quoting census figures for 1910, as showing hydro-electric installation in the United States of 1,807,434 horse-power, as against 14,199,339 horse-power of steam turbine installation.

Cheap coal is necessary for the steam turbine installation, and in this respect the Ohio Valley offers advantages not to be found in any other part of the United States, he declared. It was pointed out further that the valley is in the heart of the region where the country's supply of sulphuric acid is produced and where large quantities of ammonium by-products are available from the by-product coke ovens in the immediate vicinity.

Summing up his brief, Mr. Ketchum closed with the following recapitulation:

1. It is cheaper and more dependable to produce electric current with steam power in the upper Ohio Valley than by the hydro-electric process in some isolated section of the country.
2. The upper Ohio Valley is in the very heart of the by-product coke oven and sulphuric acid producing area of the United States, assuring a ready supply of materials used in the cyanamid process.
3. The upper Ohio Valley affords unusual facilities for reaching the great agricultural fields of the Ohio, Mississippi and Missouri River valleys for the distribution of nitrate fertilizers.
4. The abruptly broken topography of the country makes it practically immune from attack in time of war.
5. The upper Ohio Valley presents available sites on good water, with abundant labor, satisfactory living conditions and a location near to markets for raw materials and finished product.

Briefs were also filed by James C. Smith of Charleston, representing the Virginia Power Co., and S. B. Thomas, representing the city of Hinton, W. Va., showing what the sections in which they were located had to offer.

Secretary Baker presided at the hearing, and asked numerous questions bearing on the points brought out.

Preceding the hearing the officials visited the great new plant of the American Gas & Electric Co. at Windsor, 10 miles north of Wheeling, an extended account of which appeared in the MANUFACTURERS RECORD of March 8, and at its close they left for Washington.

ROY B. NAYLOR.

Louisville Presents Its Claims as Site for Government Armor-Plate Plant.

Louisville, Ky., March 17—[Special.]—During its two sessions here yesterday the Federal Armor Plate Plant Board heard oral presentation of the claims of four communities for location of the proposed Government plant. Louisville, Owensboro, Ky., and New Albany and Jeffersonville, Ind., across the Ohio River from this city, were the cities in question, the two Indiana towns, however, in the main contenting themselves with seconding the claims of Louisville, of which they are virtually a part. After having visited the site suggested in Louisville and having been entertained by the representatives of the Louisville organizations, the members of the board, Admiral Fletcher, Commander Clark and Lieutenant-Commander Bakenhus, left last night for Washington.

Oral arguments made before the board was concise and to the point. Three speakers—Donald McDonald, vice-president and general manager of the Louisville Gas & Electric Co.; Tampton Aubuchon, manager of the Louisville Industrial Foundation, and R. L. McKellar, assistant freight agent of the Southern Railway—addressed the board, presentation of the case for Louisville taking up less than an hour. Filed with the board, however, was an exhaustive brief, which deals in detail with the following subjects:

Accessories, brick, building materials, cement, city water, coal and coke, coal analyses, common labor, cost of living, fluorspar, fluxes, foreign-born labor, freight rates on armor plate, freight rates on coal, freight rates on ferro-manganese, freight rates on pig-iron, gas, gravel, homes, hospital, labor, lime, limestone, living conditions, location, mortality, molding sand, natural gas, nickel, ores, parks, pig-iron, power, power costs, power rates, railroads, rents, river, sand, sanitation, schools, scrap iron, sewers, skilled labor, street railways, transportation, tributary labor, wage scale, water, water analyses, water rates and well water.

One of the interesting points made by Mr. Aubuchon in behalf of Louisville was the fact that all the raw materials which would be used in the manufacture of armor plate are found near Louisville, and all of them inside the 200-mile limit from the seacoast, which meant, he pointed out, that not alone the plant, but the materials required for its operation, would be safe from an invading force in case of war.

Louis R. Atwood, president of the Louisville Industrial Foundation, introduced the speakers, Mr. McDonald being first, as chairman of the local committee. Himself an engineer, Mr. McDonald made the point that the greatest possible engineering fault would be in selecting as a permanent site for the plant a place which ultimately would prove unsatisfactory. He disclaimed any intent to urge Louisville as the sole logical site, and other speakers did the same, all confining themselves to pointing out Louisville's advantages.

Louisville, he pointed out, is 500 miles from the nearest frontier, and probably could never be reached by an invading army. The plant here would be approximately equidistant from the pig-iron producing centers—Pittsburgh, Birmingham and the Northern district. The city is in the midst of rich coal-producing territory, with coal of all grades unusually cheap. Details as to character, purposes and prices delivered were given. Two fire-brick plants, two cement mills, level land for the plant site, accessibility by river and rail to the surrounding rich limestone fields, dams up and down the river which, by the simple expedient of destroying the locks, could delay approach of an enemy by water for many months, and a loyal and American population were some of the advantages enumerated briefly by Mr. McDonald.

Mr. Aubuchon referred in some detail to the elaborate brief which had been filed and called attention to its sections relating to available homes, low living costs, labor facilities, population, water supply, coal available, etc. He enumerated the nine trunk lines entering the city, noted that the cheap coal would allow production of power at \$30 per annum per horse-power, while gas and electric rates are unusually low and the public utility plants are in position to supply any part of 100,000 horse-power. Mr. Aubuchon used a map in depicting the great advantages of the city as a location for the plant, having marked it off in circles indicating distances and indicating the transportation lines and location of the raw materials.

"We do not attempt to advise the board of the rela-

tive merit or efficacy of the various materials used in the manufacture of steel or armor plate, but take into consideration all materials, regardless of origin, which will be used under normal conditions, or which may, perforce, be used under abnormal conditions of production, supply and plant operation," said Mr. McKellar, in summing up for Louisville. He outlined ideal requirements for such a plant, and then proceeded to show that Louisville, in the estimation of the committee presenting the city's case, was the logical location for the plant. Much of Mr. McKellar's discussion related to the advantages in the way of transportation that the location offers.

For New Albany, Oscar Barth presented the claims of that city and suggested that there were three available sites on the north side of the river. C. G. Bradley, secretary of the Jeffersonville Chamber of Commerce, emphasized that what his city wanted was to throw the weight of its influence to this district. For Owensboro, Ky., T. J. Turley and J. J. Trefz, president and vice-president, respectively, of the Owensboro Industrial Club, made oral statements of the advantages of Owensboro and at the same time filed a brief which also recites them.

HUGE EXPANSION OF TELEPHONE BUSINESS.

Daily Connections Over 29,000,000—Annual Revenues \$264,600,000.

The annual report of the "Bell System," of which Theodore N. Vail is president, is eloquent of the tremendous growth in the use of the telephone during 1916. There was an unprecedented increase of 695,971 in the number of telephone stations, or considerably more than 7½ per cent., making the total number of stations at the end of the year 9,847,192, with a total length of wire of 19,850,315 miles, an increase of 1,344,770. There is 58 per cent. of this mileage underground. The number of daily telephone connections increased to 29,520,000, or 9,789,700,000 a year. This extension necessitated a rapid increase of facilities, and over \$66,000,000 was added to the plant. Estimates are made for \$90,000,000 to be used in plant extensions this year. Funds for this have already been provided by bonds and stock. The total operating revenues of the year were \$264,600,000, an increase of \$30,151,000, or 12.9 per cent., as compared with 1915. There was used for depreciation and maintenance \$84,556,000; traffic expenses, \$53,749,000; commercial expenses, \$25,639,000; general and miscellaneous expenses, \$11,902,000, and taxes assignable to operations, \$14,916,000. The total gross income was \$79,353,000; increase, \$9,787,000. Out of this \$22,114,000 went for interest, rents, etc., leaving \$35,160,000 for dividends and over \$22,000,000 to be carried to surplus account. Approximately \$6,000,000 was paid to the employees as additional compensation to cover abnormal working conditions and living expenses of the year.

The company also says that important progress in engineering was made, increasing the range of telephone speech transmission many fold. Hundreds of inventions have been studied, and an unusually large number of improvements have been introduced, resulting in economies and advances in service of great public value.

Another Big Solvay Subsidiary.

The Solvay Company of Syracuse, N. Y., has organized another big subsidiary corporation, this being the Ironton-Solvay Coke Co., with a capitalization of \$2,000,000. This company has purchased 60 acres of land at Ironton, O., where it will build a by-product coke plant, almost directly opposite Ashland, Ky., across the Mississippi River, where the Kentucky Solvay Coke Co. has a big plant. The new corporation has issued \$1,600,000 of its stock, the Kentucky Solvay Coke Co. having purchased \$800,000 of this amount and \$200,000 having been subscribed by Ironton investors, with the remainder open to subscription by stockholders of the Kentucky Solvay Coke Co. Officers of the new company are: President, John G. Hazard; vice-president, E. C. Witherby; treasurer, N. D. Whitford; secretary, R. B. Parker.

Building a Great Industrial Center Through Work of a Southern Road

WHAT ONE RAILROAD COMPANY IS ACCOMPLISHING IN THE DEVELOPMENT OF RESOURCES IN THE TERRITORY ALONG ITS LINE.

By CHARLES F. ROTH, Chemist, New York City.

[Charles F. Roth, chemist, specializing as industrial chemist, is a member of the American Chemical Society, American Electrochemical Society, Chemists' Club and other technical societies. He was formerly chief chemist Standard Oil Co. of New York (1911-14) and previously chemist National Brewers' Academy (1907-11). He is secretary-treasurer of the New York section of the American Chemical Society and member Press and Publicity Committee American Chemical Society.]

Mr. Roth was one of the organizers and managers of the Chemical Exposition held in New York in 1915, and also of the exposition held in 1916, and of the one to be held this fall. In the Chemical Exposition all the chemical societies co-operated. These were the American Chemical Society, American Electrochemical Society, American Institute Chemical Engineers, Technical Association of Pulp and Paper Industry, American Institute of Mining Engineers, Chemists' Club, and the advisory committee is composed of representatives of all of them.

Mr. Roth has just made a ten weeks' visit through the South to gain first-hand information as to the South's resources and opportunities; to make the acquaintance of the people controlling them, and to consummate arrangements with the various railroads, State governments and others, whereby the South would be adequately represented by a large section at the exposition to be held this fall, the importance of which representation has been repeatedly pointed out in editorials in the *Manufacturers Record*.—Editor *Manufacturers Record*.]

The Carolina, Clinchfield & Ohio Railroad is indeed an inspiration to an industrial man. Operating in five States from Elkhorn City, Ky., to Spartanburg, S. C., it traverses what was considered a barren country until wise and intelligent management of the road made its natural resources an asset.

Through intelligent exploitation and demonstration the road has brought capital and industry to its lines to develop some of its resources. The writer has visions of seeing in the near future the contiguous territory bristling with factory chimneys, stoves, furnaces, kilns and chemical plants. Outwardly they may seem dead, but within their confines they will be hives of industry passing the subtle fluids silently but rapidly on their way to better the condition of man.

At Erwin, Tenn., the division point of the line, the town has grown to a city of 3000 people. It is set in a valley three miles wide and eleven long, and has already shown that it is to be a coming industrial center. Here the eight stacks of the Southern Potteries, Inc., have already made their presence felt. This plant has begun its work of making two important brands of fine tableware. These will be the "Southland" and "Dixie," both pleasing to look upon.

Just a little further on, near the foothills, a plant of the Clinchfield Products Corporation is grinding its way into a hill of feldspar.

There is already an automobile spoke factory in the town, and very shortly A. P. Villa & Co. will complete a silk mill that will employ 300 persons.

The railroad company, with its 600 or 700 men in the city, has a payroll of about \$50,000 monthly, and the pottery, with 300 to 350 employees and a payroll of about \$15,000, and including the silk and the spoke factory, with an equal payroll, it must be admitted that for a town which only began to grow five years ago it has made a splendid start.

The Holston Corporation, which has large holdings in the city, has had Grosvenor Atterbury of New York plan a city beautiful, and his present ground plan well portrays his success at his task. Already the corporation has begun building 40 houses for the employees of the pottery, and many more are nearing completion. A sewerage system has been installed, electric lines placed, provision made for gas mains, and the city streets are about to be paved.

The corporation offers every inducement to financiers and manufacturers contemplating the establishment of plants, beautiful houses at small cost to their employees, with plenty of clear, pure water, healthful surroundings and plenty of invigorating air and superb scenery. The Holston Corporation has already begun laying out the streets, and they are indeed charming to behold.

At Kingsport the visitor is at once impressed with the prosperity of a town grown so rapidly that it had not the time to incorporate. It still presents that wild West atmosphere so well known in the movies.

A cement mill with a production of 100,000 barrels per month, the Clinchfield Portland Cement Corporation, finds itself in a position to enter the fields of other competitors in other States, and sends its products into 10 States. Richard K. Meade of Baltimore has just completed a lime plant to make lime for this company, and shortly they expect to burn dolomite of unusual purity to be converted into lime and magnesium carbonate and possibly magnesia at the Federal Dyestuff & Chemical Co.'s plant. They will supply lime to the Kingsport Tanning Corporation. This latter company works in co-operation with the Kingsport Extract Corporation, who make 25 tons per day of tanning extract. They produce oak and chestnut tan. The tanning company is producing 100 hides per day, operating efficiently and cleanly.

The spent chips and wood shavings from the extract corporation will be made into paper pulp by the Kingsport Pulp Corporation by the soda process. The Kingsport Paper Corporation will then finish the process and make a book paper (like *Engineering Record's* or *MANUFACTURERS RECORD's* pages). Both of these plants are splendidly built structures, and will remain for a long time as monuments to the earnestness of the men of today.

The Kingsport Brick Corporation has, at the other side of the town, 28 kilns which produce as fine a grade of brick, to the number of 130,000 per day, as the writer has ever seen. They will soon be producing sewer pipe.

Just beyond this is the big plant of the Federal Dyestuff & Chemical Co., at present producing 40 different dyes. They have been producing dyes since January, 1916. Dr. Hebden, the manager, who built this vast plant and is making the dyestuffs, deserves great credit for the stupendous task he is completing. In a few days he will ship a car of dyestuffs to an Eastern port for export, with 10 days to reach the steamer. The doctor says: "The railroad companies here are very good about such things, and have always helped us. They are interested in the development of the South, and in this way help materially."

The Clinchfield Portland Cement Corporation secure their limestone, shale and dolomite in the hills right at their plant. The coal comes over the Carolina, Clinchfield & Ohio from Clinchfield in Virginia. Part of this enters into the manufacture of the products of the plant, another portion is converted into electric power to move the machinery in the other plants in the Kingsport Valley.

The brick plant secures shale in the hill just at its back, and uses Clinchfield coal.

The dyestuffs plant hopes to secure salt for the manufacture of its chlorine and soda from the Carolina, Clinchfield & Ohio property, and uses Clinchfield coal. The pyrites and sulphur ores are of local production.

The De Camp Glass Casket Co. will shortly be estab-

lished at Kingsport and use the fine glass sands from the hills there.

The Carolina, Clinchfield & Ohio not only are improving their own condition and bringing revenue to themselves, but are earning the gratitude of the people through the section of country they traverse, making a non-productive country into an asset of production of which the nation may well feel proud.

No technical man can view this development and not be inspired with a feeling of enthusiasm for the wonderful things accomplished here, and to be accomplished in the future; the hills are a mighty storehouse as yet scarcely opened.

The Kingsport Valley industries are working toward a self-containedness that is worthy the attention of chemists and engineers. With its present chemical cycle almost complete, no products or by-products wasted, and with the barren hills still big with possibilities, it is not too much to expect the future to show this as a center of chemical industry in America.

This transition from a valley of lonesome pines to a great industrial center has been accomplished by a wise and intelligent survey by a railroad company of its resources, coupled with a live industrial department with a good chemist on his job.

PHOSPHATE TERMINALS COSTING \$1,000,000.

Tampa Facilities to Include Terminal Railway, Elevators, Acid Phosphate and Fertilizer Plants.

Definite action is announced by the Export Railway Co., Tampa, Fla., for the big terminals it has been planning to build, and \$1,000,000 will be invested. These facilities will comprise phosphate terminals, including phosphate elevators, terminal trackage, six-mile spur railway from terminal site to Tampa, 15-mile standard-gauge railway from terminals to the mines of the American Phosphate Mining Co. (controlled by the American Agricultural Chemical Co. of New York) at Bloomingdale, an acid phosphate plant with a daily capacity of 200,000 tons and a fertilizer factory to be built by the American Agricultural Chemical Co. E. W. Parker of Tampa has been awarded contract for constructing the 15-mile railway.

The terminal site is on the eastern shore of Hillsborough Bay, in Hillsborough county, six miles south of South Tampa, and the terminal improvements required will include dredging a channel to the main 24-foot channel and a ship basin requiring the dredging of 1,000,000 yards of material, the latter to be utilized for constructing 2000 feet of land into the bay. All these plans, with their accompanying details, were ratified at the Export Railway Co.'s annual meeting last week, when the important development was announced and officers were elected as follows: President, H. J. Pierce, re-elected; vice-president, T. W. Parsons, formerly division superintendent of the Seaboard Air Line Railway and now vice-president and general manager of the Charlotte Harbor & Northern Railway; secretary and treasurer, N. P. Webber, re-elected. The new board of directors consists of Messrs. Pierce, Parsons and Webber, Peter B. Bradley, James J. Gifford, Wm. Prescott and Burdett Loomis.

Engineering plans and specifications are now being prepared with a view to awarding contracts for further construction, so that the big phosphate terminal will be completed as soon as is consistent with efficiency. They will probably provide for completing the entire plant within a year, including the manufacturing plants to be built by the American Agricultural Chemical Co. Phosphate from the mines of the American Phosphate Mining Co. will be shipped steadily to the terminals and there utilized for manufacturing sulphuric acid and fertilizing materials in the American Agricultural Co.'s two big factories.

In providing these terminals and their accompanying improvements, Mr. Pierce and his associates are anticipating a great demand for fertilizers from Europe for extensive agricultural developments which will undoubtedly be undertaken by the warring countries as soon as hostilities have ceased. The general reopening of transatlantic commerce will provide the shipping, and it is expected that other industrial enterprises will be established in the neighborhood of the terminals to take advantage of the facilities planned.

Forecast of Congressional Action at Special Session to Begin in April

MILITARY PREPAREDNESS MAIN FEATURE OF PRESIDENT'S PROGRAM—ACTION ON WATER-POWER LEGISLATION AND WEBB BILL WILL ALSO BE URGED—FLAGRANT DERELICTION OF LAST CONGRESS—SMALL PROSPECT OF ANYTHING IN LINE OF PROTECTIVE TARIFF AT THIS TIME.

Washington, D. C., March 19.—[Special.]—President Wilson's program for the coming extra session of Congress will deal mainly, but not entirely, with military preparedness. This can be stated authoritatively by the MANUFACTURERS RECORD correspondent.

Whether Congress reconvenes on April 16, as originally announced, or is called into session at an earlier date because of the swift developments in the international situation occasioned by further acts of ruthlessness by the German submarine, this general statement will hold good.

Much depends, of course, upon whether or not an armed American merchant ship has been sunk by a German submarine by the time Congress reconvenes. The destruction of unarmed American merchantmen undoubtedly constitutes the "overt acts" that actually mean war. These, however, by previous intention to meet them, call for the armed neutrality which the President has determined upon without awaiting the approval of Congress. Should one of these armed ships be sunk, it would certainly mean war. The President's message, in that event, would deal with the situation as presented in the graver guise.

The need for larger appropriations, regardless of what happens in the meantime, will be pressed in the Presidential program, which will also include a call for immediate action on water-power development, the enactment of the Webb bill and an urgent plea for Congress to repair the mistakes of the last session, in which no remedial railway legislation was passed. The coming extraordinary session will be confined almost exclusively to these matters.

With the overthrow of unlimited debate in the Senate by the new cloture rule there will be no possibility of another filibuster such as disgraced the Senatorial proceedings of the last session by thwarting the will of the people and blocking the movement toward preparedness at a most critical time.

A study of the history of the last Congress discloses conditions that are extremely discouraging. While the House, in the main, responded to the nation's need, it was guilty of much unnecessary delay in action and of not a few sins of legislative omission. In the Senate the dereliction was amazing, when consideration is given to the character of the bills that were allowed to go over.

Particularly in evidence is the failure of Congress to deal with the development of water-power at the last session. This occurred despite a very earnest effort made both by the Administration and by leaders in Congress to solve this problem and to secure for the country the use of these great resources. Bills were passed by both Houses of Congress, and an effort was made to settle the disputed points in conference, but without success.

How great a calamity this is, even in time of peace, would be realized by the country in the event of war. Water-power, when developed, takes the place of fuel, such as coal and oil, which are rapidly being exhausted by the demands for power. Great railroad lines are awaiting the passage of legislation that would make it possible to use electricity as a motive power instead of coal, and thereby increase the efficiency and comfort of the service, while decreasing its cost, and, incidentally, preventing the present enormous consumption of exhaustible fuel. Moreover, fully one-third of the carrying capacity of the railroads is used in transporting coal for their own use. The use of electricity would relieve car shortage in the country by releasing the cars now employed to carry fuel. It is in these respects that Congress has shown itself indifferent to the fact that great industries which we need and must have in the present world-wide crisis have sought, and until this question is settled will continue to seek, other countries in which to establish their enterprises, be-

cause our own water-powers are not opened to their use. In the print-paper shortage the same inhibition of the nation's resources is made chargeable by Secretary of Agriculture Houston for the situation. We have the water-power and the forest reserves equal to every requirement, he asserts, and legislation assuring only reasonable Governmental supervision and control is equal to solving the problem.

The water-power situation is almost without limits in affecting national safety and prosperity. Through its development our farmers could be provided with nitrate fertilizers at a low cost, instead of being obliged either to content themselves with decreased crops in return for the same amount of labor that would be expended on larger yields or else pay tribute to the great nitrogen combine in Chile. The embargo on water-power development, due to the failure of Congress to pass adequate laws on the subject, has existed now for upward of eight years. Curiously enough, much of the opposition to this legislation has been advanced in the name of conservation. The result of this opposition, as is now clearly apparent, has been nothing but waste of our resources. In no part of the United States is this wastage more regrettable than in the South, for in no part of the country can the unlocking of the water resources be followed by greater benefits. Sincere conservationists must now realize this, and must insist that the great advance of the country's interests shall no longer be retarded by the prolonged discussion of relatively inconsequential details.

The new tariff commission appointed by the President is not of such composition as to encourage the belief that it will accomplish anything. Created by law as a commission that must be non-partisan or bi-partisan, its combined membership is neither. Professor Taussig is a free-trader, to whom during-the-war conditions present no more concern than after-war conditions promise to enlarge in importance. Culbertson is the sole tariff expert and protectionist. Roper has achieved prominence as a campaign worker rather than as a tariff authority. Costigan is a lawyer. Kent and Lewis are defeated candidates for re-election in the House, the one a progressive, the other a tariff-for-revenue-only advocate who was defeated by a protectionist.

Knowledge of views of leading officials, including President Wilson and Secretaries McAdoo and Redfield, indicates almost with certainty that there will be no revision of the tariff to restore protection during the continuance of the present war. There is an almost definite decision not to be forehand in meeting coming commercial conditions. The policy of hindsight in preference to foresight is slated for further continuance, and Congress will not be permitted to take any action. The House is almost evenly balanced in membership between the Republicans and the Democrats. The Senate has a Democratic majority of 10. Consequently House action in favor of a protective measure, even though successful through the support of the "independent" vote, would be frustrated in the Senate if the Administration so desires.

NEW SALT MINES IN LOUISIANA.

Comprehensive Plans of \$350,000 Company for Mining and Manufacturing Salt.

Referring to the salt deposits mentioned last week as found at Anse La Butte, an official of the Benners Salt Co. sends the MANUFACTURERS RECORD an interesting statement. Last November H. A. Benners of New Orleans, who has for 15 years been connected with the Louisiana salt interests, learned of a salt deposit at Anse La Butte, four miles from Lafayette, La. He began investigations, and soon found the deposit of im-

portance, wells sunk having struck a deposit of rock salt said to be 98.70 pure sodium chloride, the drills going to a depth of 3463 feet without passing through the deposit. Further investigations showed the deposit extending over a territory of 80 to 100 acres, indicating a marketable supply of hundreds of millions of tons. The Benners Salt Co., Ltd., New Orleans, was then organized with \$350,000 capital and contracts were awarded for developments. Machinery of the most modern type will be installed and the plant will be rushed to completion, so that the salt can be placed on the market at the earliest possible date, it being stated that the initial annual output of 250,000 tons has already been purchased.

Anse La Butte is on the Lafayette-Baton Rouge branch of the Southern Pacific Railway, presenting an excellent location for rail and water transportation to all parts of the United States, and New Orleans and Baton Rouge offer their port facilities for the prompt handling of export business. Western business can be handled through Lafayette. Gas and oil have been found within 100 feet of the salt deposits, and this not only solves the cost of fuel for the salt mining and manufacturing plant, but also offers opportunities for the establishment of factories for producing the by-products of salt.

The new company's headquarters are at New Orleans, with Baton Rouge as a distributing center and offices in other cities. A number of large salt consumers and dealers are interested in the company and will be represented on the board of directors. The officers are Harry A. Benner, president, New Orleans, who will assume the management; Gabe S. Wegener, secretary, Chicago, who will probably take active charge of the Northern markets; James L. Nelson, treasurer, St. Louis, who will have charge of the Western market.

February Imports and Exports.

American exports fell off \$147,032,659 in February, the total being \$466,523,034, as compared with the corrected total of \$613,555,693 in January, according to a statement issued recently by the Bureau of Foreign and Domestic Commerce, Department of Commerce.

Imports fell off \$42,239,685, the total purchases abroad in February being valued at \$190,576,597, as against \$241,816,282 in January.

The exports for the eight months ended February, 1917, were \$4,080,695,942, while for like periods in 1916 and 1915 the totals were \$2,584,682,726 and \$1,634,466,017, respectively. Imports for the eight months ended February, 1917, were \$1,547,931,578, and \$1,291,072,933 in 1916, and \$1,055,631,627 in 1915. The excess of exports over imports in February was \$266,946,437 and \$2,532,764,364 in the eight months' period ended in February.

Of the month's imports, 69.30 per cent. entered free of duty, as compared with 67.35 per cent. in February, 1916, and 63.92 per cent. in February, 1915. In the eight months' periods for the corresponding years the per cent. of free was 68.92, 69.36 and 61.70 per cent., respectively.

Gold imports totaled \$103,766,495 in February, 1917, while the exports of gold for the month were \$22,068,659. The imports of gold for the eight months ending February, 1917, were \$661,703,840, as compared with exports of \$132,174,727, showing a net balance of \$529,529,113.

Big Steel Steamship Contract.

An official of the Bethlehem Steel Co., South Bethlehem, Pa., wires the MANUFACTURERS RECORD that his corporation has received a contract from the Cunard Steamship Co. of London for six general cargo ships. One of these vessels will be 7500 tons, another of 8300 tons, another of 10,000 tons and two others of 12,000 tons each. Final delivery of these steamships is required by April, 1918, but no further particulars are now available.

This contract was mentioned last week, unconfirmed reports stating that it amounts to \$13,000,000. It is understood that the Bethlehem company is subletting contracts on this big order to some shipyards other than those now operated by its subsidiaries on the Atlantic and Pacific coasts.

Rapid Expansion of New Port of Beaumont on the Neches River

FOUR VESSELS LOADING LUMBER FOR EXPORT AT ONE TIME—SINCE FORMAL OPENING A YEAR AGO 1,000,000 TONS OF EXPORTS HAVE BEEN SHIPPED.

[Special Correspondence Manufacturers Record.]

Beaumont, Tex., March 11.

Since its formal opening, March 23, 1916, the new port of Beaumont, Tex., has gained distinction for its progressiveness, and it is believed here to be the most rapidly growing inland port in the South.

In the illustration herewith four vessels are shown loading lumber for export. They are, from left to right, the Don Diego, which is taking on a cargo of 2,500,000 feet; the Margareta, loading 1,500,000 feet; the August, 1,000,000 feet, and the steamer Hindustan, 1,000,000 feet.

The 1000-foot municipal wharf is shown, and the coastwise work on the first 500-foot unit of the wharf shed. Another 500-foot concrete wharf unit will be built at once, as a bond issue has already provided funds for that purpose.

The Magnolia Petroleum Co. in Beaumont has a 1000-foot concrete wharf, and there are other private wharves.

Beaumont has 26 feet of water, minimum, to the open sea. Beaumont is on the Neches River, 50 miles from the Gulf, and has 40 feet of water in the channel at this place.

Since the opening of the port approximately 1,000,000 tons of cargo have been shipped from Beaumont, of which a large portion has been timber and oil for export to European ports.

Shipbuilding is an industry that is getting well under way in Beaumont. One vessel, the Mary Louise, 175 feet in length, was recently launched by Howland & Nelson, who now have two other vessels, both over 200 feet in length, under construction, while Henry M. Piaggio of Gulfport, Miss., is building two 288-foot vessels and will begin the construction of two others in the near future.

Beaumont has four railways—the Southern Pacific, the Santa Fe, the Kansas City Southern and the Gulf Coast Line—with 13 outlets, and is going after another, the Beaumont-Waco Railroad. Beaumont and Waco have each pledged \$100,000 and terminals in each city for the new road, and the actual route to be followed is now being selected.

Beaumont has one regular steamship line to Tampico, Mexico, and the milling of \$4,000,000 worth of rice in this city every year is responsible for the construction of a large steamer, which will be put into regular service between Beaumont and Porto Rico early in the autumn.

The development of the Porto Rican trade has been

delayed on account of scarcity of bottoms. Plans were all laid for the beginning of this trade last fall.

The city has a population of 35,000, including suburbs, and in evidence of the city's rapid strides it may be cited that for 1916 building permits totaled more than \$1,000,000. The bank clearings were over \$46,000,000, and the average bank deposits are over \$10,500,000.

The Chamber of Commerce is officered by the leading business men of the city. E. E. Plumly is president; C. R. Bone, secretary, and Charles A. Bland, traffic manager. This is a live and progressive organization, and it is on the alert for new industries.

MILES C. SHOREY.

AGRICULTURAL PREPAREDNESS THE COUNTRY'S NEED.

How a Virginia Farmer Sets Example for
South by Keeping His Acres at Work.

By A. JEFFERS, Norfolk, Va.

The MANUFACTURERS RECORD is such a staunch friend of the South and such an able exponent of "preparedness" applied to national matters that the writer desires to present to Southern readers and all readers of the MANUFACTURERS RECORD the photograph and facts, figures and features connected therewith, showing how one Virginia farmer not only believes in proper preparedness, but has entrenched himself behind two crops (two trenches) by growing two crops during the year 1916 from the same piece of land.

The crops shown in the photo herewith are second crops, grown upon land from which other crops had been taken earlier in the year, and both crops matured in a little less than 12 months' time.

These crops are all staple farm crops—corn, sweet potatoes, round potatoes and parsnips. Such a farmer is prepared to meet the "higher cost of living" with great equanimity, as he has chickens and eggs, hay and corn, and perhaps 30 different kinds of vegetables, including sweet and Irish potatoes. He can have his own pork and lard, butter, cream and milk, and from the nearby stream of salt water (an arm of the sea) can have fish, oysters, clams and crabs for the taking. Such a farmer is "prepared," and the only thing he need

worry about is this: If "Uncle Sam" is not "prepared" an enemy man-of-war could lie off the Virginia Capes and throw shells miles beyond his little farm; therefore, while attending carefully to agricultural "preparedness," he is depending upon the President and Congress to get a move on in the line of military preparedness.

This farmer has won many a victory in the contest he is making for a living. He may not be decorated with the ancient and honorable "fleece," "eagle" or "star and garter;" he may not have the "Iron Cross" or any



THE FARMER "FEEDS THE WORLD." THE MEN
"BEHIND THE GUNS" WIN THE FIGHT.

This farmer is entrenched behind his second line of works (crops). He could not be driven out with aeroplane, submarine or machine gun.

other decoration bestowed upon him by the hand of man, but he has something even better than can be pinned upon his manly breast by prince, prelate or potentate—he has Nature's own insignia certifying to the high calling which he is following—the highest, the noblest, the most honorable. In his contest with Nature his victories make no widows or orphans; he leaves no ruins in his wake. He feeds his millions instead of fighting them. Only one calling or occupation is mentioned in the Bible as being preferred to that of tilling the soil, and that is the occupation or calling of shepherd.

Suppose the Southern farmers do both, till the soil



PANORAMIC VIEW OF RAPIDLY-GROWING PORT
Four vessels in port at one time loading lumber for export. Framed

thoroughly and keep sheep intelligently. When thus entrenched behind another line of trenches they will not only be thoroughly prepared, but their trenches will be impregnable.

Gradually the South is recognizing the advantages to be secured by a more intensive tillage of the soil. Where would Germany be today if it were not for the intensive methods of soil tillage practiced for many years by her farmers? The American farmer has two important things to learn yet, although he may think he knows it all already. He has to learn to make and to save. The farmers of many portions of the South can, if they will, grow two to four crops a year from the same soil. They can make these crops, and the problem with them is to save them; to market them to best advantage.

With the "preparedness" urged by the MANUFACTURERS RECORD, and that preparedness illustrated by the photo herewith, the South could hold her own against starvation or invasion. These be stirring times, and it behooves every man to stir himself in his proper calling and make the most of the opportunities which knock at his door. The farmer feeds the world, and the aggregate amount of food in the world is at its lowest ebb for many years past.

One-half the world seems to be raising Cain; the other half should raise cane and other products of the soil in larger quantities than ever before.

In intensive tillage of the soil the South is "setting the pace." Facts, Figures, Features and Fotos prove this to be true.

COMPLETING A PICTURESQUE GULF COAST HIGHWAY.

Connecting Link in Mobile-Bay St. Louis Speedway Passes Through Country Rich in Scenic and Historic Interest.

Pascagoula, Miss., March 11—[Special.]—D. U. Harris of Mobile, the engineer in charge of constructing the road through the salt marshes between the East and West Pascagoula rivers and bridge over the West Pascagoula River, so as to make a connecting link in the speedway from Mobile to Bay St. Louis, reports today that all of the piling for the bridge over the West Pascagoula has been driven, the planking of the bridge is in place and the work only awaits the arrival of the steel, which is expected daily, and which will take about three weeks to buckle in place. The canal and roadway through the 3.5 miles of salt marshes is progressing rapidly, and at the next meeting of the Board of Supervisors, in April, the contract for the ferry over the East Pascagoula will be let. It is confidently expected that the entire work will be completed by June 1.

As the speedway is nearing completion, it may be well to give a short itinerary of this route from Mobile to Biloxi and the points of interest along the route for the benefit of future tourist along the Gulf coast. From

Mobile there are two fine roads that set out for the Mississippi line, the most northerly being known as the Cottage Hill road. It runs by Cotton Hill, where oil companies of Mobile are now drilling for oil, and is a most excellent highway, some parts not to be excelled by any road in the Gulf coast region. The more southerly one goes out of South Mobile and makes for Grand Bay, which is on the Louisville & Nashville Railroad and about three miles from the Alabama and Mississippi State line. Both of these roads are approximately of the same length, 27 miles, and pass through elevated plateaus or table lands, most of which is being cultivated for truck gardens and orange groves, and offers many objects of interest, especially for those who love

"A querulous fraternity of pines,"

for the pine groves along this route are not the least picturesque part of it.

From the State line to Pascagoula it is 13 miles, but before reaching Pascagoula one branch of the road goes to Kreola, where stands the great paper mill of the Southern Paper Co. From the paper mill there is a most excellent automobile road to Moss Point, which lies on the banks of the Escatawpa River and extends several miles to the confluence of this river with the East Pascagoula River. Then a new and up-to-date shell road runs southward to Pascagoula. It is a picturesque drive, as for several miles the road follows the meanderings of the river, there being some four miles of salt marshes between this road and where, on clear days, a dark purple line marks the pine forest of West Pascagoula, and here on almost any evening of summer or winter one may witness sunsets of unrivalled grandeur and beauty, for

"Over the waters in the vaporous west
The sun goes down as in a sphere of gold."

Pascagoula, erstwhile a famous summer and winter resort, now noted for its lumber and fish exports, takes its name from the words in the language of Biloxi Indians, "Paska"—broad, and "goula"—people. It has been for generations famous in song and story as the home of the "mysterious music of Pascagoula." The first white man to hear and make a note of this strange phenomenon was Le Moyne D'Iberville, who heard it in February, 1699, while anchored in the Pascagoula River, and he made a note of the fact in his journal. A scientific explanation of it was printed in the Popular Science Monthly, April, 1890, written by Chas. E. Chidsey, to which the late Prof. E. L. Youmans, editor of that magazine, added an interesting note approving of the writer's theory. At Pascagoula is an old French fort, built of adobe in 1717, which is still inhabited by the descendants of the original settler.

From the city of Pascagoula the road runs in a straight line to West Pascagoula, where is located the great creosoting plant of the Louisville & Nashville road, where it creosotes its bridge and other timber. This plant has been destroyed three times by fire, and

now everything about it is fireproof, all steel and cement, and no smoking is permitted anywhere.

From West Pascagoula the road, mostly a beautiful shell road, runs through pines to Ocean Springs, famous as a summer and winter resort and for its pecan and orange groves.

Just north of Orange Grove is Fort Bayou, which the road crosses on a steel bridge in order to make the circuit of the Bay of Biloxi, which is nearly three miles wide, and to enter Biloxi, and this bayou empties into the Bay of Biloxi, where in February, 1699, Le Moyne D'Iberville established the first capitol of the Louisiana Territory, building a fort here and leaving his brother, Sauvolle, in charge, which shortly afterwards burned. Sauvolle having died, the capitol was moved to Fort St. Louis de la Mobile in 1702, and in 1718 to New Orleans, La. The road, after passing around the Bay of Biloxi, enters the city of Biloxi, or New Biloxi, as it should be called, as it was founded in 1720 and is one of the most picturesque cities on the Gulf coast and famous as a summer and winter resort and for its seafood industry. Biloxi is an Indian word not found in the language of the Biloxi Indians, but in that of the Bayou-Goula, that is, River People, and it means "The First People."

From Biloxi there are magnificent roads that go through Beauvoir, the home of Jefferson Davis; Seashore Camp Grounds, Gulfport, Pass Christian, where President Wilson several years ago spent part of the winter, and then from Pass Christian around Bay St. Louis, which is about three miles wide, to the city of Bay St. Louis, a city of magnificent views and drives, and where we stop, as the road from Bay St. Louis to New Orleans is not yet completed.

The automobile tourist will find along this route many objects of interest, and what is not to be forgotten during the summer months, while traveling through the pine forest near the coast there is always at every hour of the day a strong and cool breeze blowing inland from off the Gulf of Mexico, and one escapes that sultriness and closeness that makes traveling through a forest far from the coast line oftentimes very disagreeable.

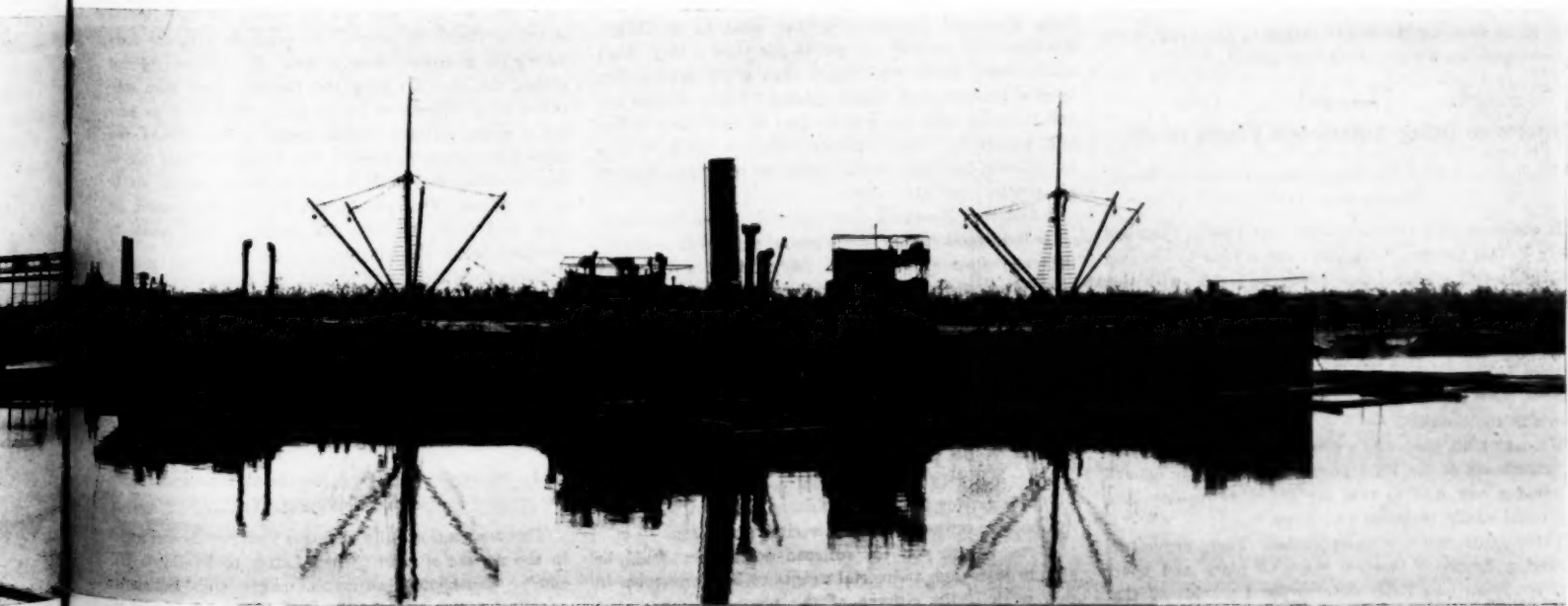
Florida Engineers' Patriotic Action.

[Special Dispatch to Manufacturers Record.]

Jacksonville, Fla., March 20.

The Florida Engineering Society, after making telegraphic inquiries of its members, sent to the Governor of the State, through its board of directors, the following telegram:

"By the unanimous vote of its board of directors, endorsed by the individual vote of its members, the Florida Engineering Society, which includes over 150 professional engineers throughout the State, offers its services to the nation in its present national crisis through you as the chief executive of the State of Florida, and places itself subject to your command."



ALMOST, TEX., FORMALLY OPENED MARCH 23, 1916.
First steel shed, first of unit of seven, in process of construction.

News and Views from Our Readers

Some Southern Congressmen the Worst Enemies of National Defense.

A. V. SNELL, Managing Secretary, Chamber of Commerce, Charleston, S. C.

Permit us to express our appreciation of your article contained in the March 15th issue entitled, "Are We Building Our Navy Yard on a Foundation of Sand?" This article is to the point and timely. So much misinformation has been published in newspapers and magazines to which we have been given no opportunity to reply, and which was published without serious investigation, that it has greatly hindered the development of the Southern navy yards.

Time and again we have challenged the published statements injurious to Charleston Navy Yard, and in some cases have requested an impartial investigation, pledging ourselves to pay costs of all such investigations provided that they would publish these findings. We have always gone to the extent of requesting the appointment of their own investigators and in no case to depend upon local sentiment alone.

One national weekly did make an investigation and their report was highly favorable to Charleston Navy Yard. This was Leslie's Weekly. The article was written by Mr. Splitstone of that paper. All of his findings were checked up with the official records in Washington.

The Charleston Navy Yard was established on the recommendation of a board of Naval Officers, and its enlargement and much more extensive development has been requested by two commissions of naval officers, one headed by Rear-Admiral Edwards (retired), and the other one by Admiral Helm, recently.

We state these cases affecting the Charleston Navy Yard for the reason that unquestionably the same condition affects all Southern navy yards.

Some of the worst enemies of the development of Southern navy yards are Southern Congressmen, and this has been especially true of certain Southern members of the House Committee on Naval Affairs.

All that Charleston, and, so far as I am informed, all that the naval stations of the South, have ever asked is fair investigation of their special advantages, and if their location and advantages are not national assets, from a military point of view, they should be abandoned. As this, we believe, has always been the view of the MANUFACTURERS RECORD, we would welcome an investigation of the present conditions by a representative of your staff and we would only be too glad to assist such a representative in every way possible in securing the necessary data and would be glad to extend all our facilities to him in this connection.

We should mention the fact that we have always found all Southern cities ready and willing to support the Charleston Navy Yard, and recently many commercial organizations, not only in interior cities, but port cities both on the South Atlantic and Gulf, have passed resolutions supporting this yard.

Efforts to Bring Automobile Plants South.

C. W. HOWARD, Director Chattanooga Industrial Board, Chattanooga, Tenn.

In a recent issue you mentioned that Henry Ford had lately visited Eastern Tennessee with a view to locating a plant in this section. You close the article with this question:

"How many Southern railroad industrial agents, Southern business men and Southern commercial organizations have directly and aggressively sought to interest some of these big automobile concerns in building branch plants in the South?"

My dear man, that was a cruel thing to say. My file on arguments to the Ford people alone is large enough to roast a cow, and to take my entire automobile files you could easily barbecue two cows.

These gentlemen are queer ducks. Their arguments against a Southern location start no place and never arrive. From long range observation I would say that about the time the principal in the automobile company reaches a state of financial ease, warranting the use of a limousine, he delegates to a large extent the future of

his business to a subordinate who is obsessed with an idea of making the "old man's" efforts look like 30 cents. He can see nothing except big dividends and piling up a surplus. Any proposal or any suggestion that serves to take his mind off of this one thing strikes terror to his soul.

Just to illustrate to what extent we have gone to induce these people to a Chattanooga location I enclose a sheet made up especially to show the economy of a location here.

Out of hundreds of letters I have received from manufacturers of automobiles I have yet to receive one letter that offers an intelligent reason against a Southern location. The road to manufacturing automobiles is wide open. Some of these days someone familiar with the business and possessed of a few thousand dollars will take advantage of the cheap raw material in the South and produce just as good an automobile as his Northern competitor. He will be able to save his customer the excessive freight charges from the Northern factory to the Southern consumer, and while they tell me now that they are "not interested in high freight rates," they will be some day, when a Southern manufacturer forces them to equalize freight rates. We will reach that point, and we will not grow weary or discouraged until we do.

This letter is just to set this organization straight before your good paper.

Business Suffering from Lack of Ships and Railroad Cars.

FRED W. AUSTIN, Mill Builder, Coden, Ala.

The lumbermen in this part of the country are in the same way as the farmer. They cut for export and they cannot export; also they cannot ship to the interior trade on account of no cars; so there is nothing doing in the building line, and I have had no money to go where there is work.

I like the MANUFACTURERS RECORD the best of any paper I get, even including the lumber journals. Enclosed please find P. O. order for \$4 to pay for my subscription.

Waking a Community Up Through Co-operation of the Railroads.

W. G. COUTTS, Big Stone Gap, Va.

Here is one of the South's greatest possibilities while this war opportunity is so wide open to the South.

Industrial agents of railroads, as a rule, make real red-blooded booster organizers, but they have the idea that it is not becoming in them to go to a town and take the initiative.

There are hundreds of towns in the South, like Big Stone Gap and Middlesboro, that want to do things, but there is no way to get co-operation; they don't know how. They don't know that a big get-together booster banquet will insure getting all the citizens out and that the railroads will be glad to send their industrial agents to deliver a booster talk and tell them how to organize and how much money to raise and how to get results with this money.

I find that Southern railroads have some very high-class industrial agents who know the game to a nicety, but can help most effectively when they are delivering an after-dinner speech at a big supper, where all the leading business men of the community are on hand.

The way we did here was to arrange a banquet and telegraphed Mr. M. V. Richards, industrial agent of the Southern Railway at Washington. He was on the job and had us standing on our heads in no time. Never in my experience of 12 years in Big Stone have I seen a oneness on the greater Big Stone such as this.

Now, it is very important that a banquet be arranged to insure getting the leading citizens together, with some live booster orator to stir their civic patriotism.

I can assure you the railroad companies would be glad to loan their industrial agents to help any town in this work if the citizens of the place will arrange a banquet, so as to insure all the leading and important business men being present. Then an invitation to deliver a booster address will receive hearty response.

Mr. Richards visited Big Stone and got our citizens all into the game and did not charge us one penny.

It would be possible in this way to organize many Southern communities, getting 50 per cent. of the business men of the community into a commercial club with annual dues of \$15 to \$25 a member.

This wakes up the community and gets the effective co-operation of the industrial departments of the railroads in a way impossible by any other manner.

Country Must Be Aroused to Its Great Peril.

MARK NABORS, 506 Whitehall, Atlanta, Ga.

I have just read with keen interest the article in your March 1st issue, "Urgent Need of Great Navy-Yard on the South Atlantic Coast," in which you published Professor Cathcart's masterful address. It should be read by every true American, as the facts cited in this article will cause alarm and unrest in the mind of every true American until the suggestions in Professor Cathcart's article have been made a realization; and the mailing of this article to every Congressman and Senator would most certainly be performing a truly patriotic act of inestimable value to our great country.

Your open letter to President Wilson is a master stroke. The immediate welding of the combined resources of our country is urgently necessary before the time to prepare has passed.

It will never be your privilege to serve your country in so high a capacity as to urge this necessity unceasingly on our President until your suggestions have been put into actions, and all the brain and resourcefulness of Americanism has been pitted against our would-be devastators. Our country is in grave peril, and your ideas, if adopted at once, will doubtless save the cause of humanity against barbarism and untold atrocities. This duty is yours, which you can't afford not to measure up to until the desired end is accomplished.

Great Opportunities at Covington, Va.

T. M. BALDWIN, JR., P. O. Box 364, Covington, Va.

I am trying hard to get our business men here to form a wide-awake Chamber of Commerce. This is a wonderful place, crammed full of opportunities for live, active business men.

We will have an election on April 9 for decision as to whether or not we shall have a bond issue of \$150,000 for the improvement of our streets and electric-light system, and it is almost certain to carry by a large majority, which will be a long stride toward an up-to-date city.

The population has increased over 1000 in the past year, and we have not enough homes, or modern ones at all, to house the people who come daily to our doors asking for a decent place to live. It is estimated that within the past 60 days 100 families have been compelled to go elsewhere owing to the fact that we have not a single solitary vacant house in this city of over 6000 inhabitants, and every day I have at least four or five inquiries for small homes of from four to six or seven rooms. Our people won't, for some reason, get busy and build at least 100 homes, which would be occupied before the plastering could get dry.

Being from Baltimore myself, if I could only get some builders interested here an independent fortune could be made in a short while, as the demand for small homes is surprising and they could be sold or rented to good advantage.

Alive to Necessity for Defensive Action.

C. L. STEVENS, Secretary Southern Commercial Association, Southport, N. C.

This association fully endorses your words and action in the matter of your "Open Letter to President Wilson." Southport's situation makes this association peculiarly alive to defensive action on the part of the National Government, and it is this association's desire to take any and all possible action that may be effective to a national defense.

Saving Early Truck and Fruit Through Warnings Sent by Uncle Sam

LIST OF 340,000 TEXAS NAMES GIVES INDICATION OF ELABORATE SYSTEM THAT COVERS WHOLE SOUTH—GOVERNMENT ALSO CO-OPERATES IN METHODS OF COMBATING FROST EFFECTS IN EVERY WAY THAT EFFORTS CAN AVAIL.

[Special Correspondence Manufacturers Record.]

Washington, D. C., March 19.

Stretching along the eastern border of the United States from Texas to Southeastern Virginia is a fertile area of truck-growing lands capable of feeding with its produce of vegetables the population of the entire country. Fully developed, it could almost garnish the table of the world with the first "green stuff" of spring.

Away from the coast line of these States lie equally fertile acres devoted to the raising of other crops that are of untold value.

Under normal weather conditions these regions supply the early markets of the Eastern and interior cities with a character of foodstuff that is not obtainable from other sources of supply until weeks later.

This means a valuable addition to the prosperity of the country, as well as to the regions which send forth their shipments before the soil of the more Northern regions has yet been warmed to the point of seed germination.

Now and then, however, the weather elements conspire to destroy this promise of plenty. Up to a certain point the ingenuity of man, working in unison with his ability to foretell the coming of the destructive freezes, is equal to overcoming the danger. Beyond that point his efforts are futile.

The great freeze that marked the cold wave of January 29 to February 6, 1917, falls within the limits of the two conditions.

By the records of the United States Weather Bureau this freeze had penetrated practically all of the country east of the Rocky Mountains, except central and southern Florida, by the morning of February 2. On the 3d it caused killing frosts over practically all of the peninsula of Florida. The temperature then recorded at Miami, 28 degrees, was the lowest ever recorded at that station.

Immense loss to truck growth, and less damage to deciduous and citrus fruits, followed throughout the entire South. The one bright phase is that of a probable damage to the boll-weevil. Investigations by the Bureau of Entomology show that an exposure to a temperature of 20 degrees for a period of six hours is fatal to that pest. As temperatures that low were experienced over much of the cotton belt, it is anticipated that the boll-weevil will be reduced in all districts, even to the point of practical extinction in some.

With its widespread system of weather observations reported twice daily by telegraph, the Weather Bureau kept close watch on this great cold wave from the time of its incipency until it succumbed to the normal semi-tropical temperature of the extreme southeastern extensions of the United States. Its warnings of coming freezing temperatures, sent out well beforehand, met with a remarkable degree of accuracy, both as to the temperature extreme experienced and the time of its occurrence.

Some idea of the scope of this practical governmental aid to the truck grower, cane planter and orchardist may be obtained from a brief account of the methods followed by the Weather Bureau.

Receiving its reports from all parts of the country, from the far outlying Aleutian Islands to the Atlantic coast, the Weather Bureau charts the weather conditions furnished. From the map thus prepared it deduces its forecasts, and by shortly after 10 A. M. each day it is speeding over the wires its forecasts of coming weather conditions.

Particular attention is paid to its predictions of injurious frosts in the spring. In this system of warnings and their distribution the South is not neglected. In fact, on account of the importance of the crops then liable to injury in the South, that section of the country receives especial attention.

The frost warnings for the recent damaging freeze, as well as for others, in so far as these apply to the Eastern and Southern States, are prepared for the most

part at Washington. An exception is made for the four Southern States of Louisiana, Oklahoma, Arkansas and Texas, for which the warnings are prepared at New Orleans by an experienced official.

Once the danger of frost damage is obvious from the charted conditions, the Weather Bureau immediately takes up the matter of distributing the information. The warnings are telegraphed direct to certain Weather Bureau stations in the Southern States, either from Washington or from New Orleans, as already indicated.

From these points they are redistributed to the jeopardized sections in the several States. Various means are employed for spreading the news. The telegraph is largely used, and the telephone to a very much greater extent. Flags are also displayed, steamboat whistles are blown, communicating the warnings by means of certain prearranged signals, and other devices are resorted to as occasion may offer or the enterprise or ingenuity of the dwellers in the truck-growing and citrus-raising regions may have developed.

Take Florida, for instance, as illustrating the manner in which the information regarding the coming freeze was disseminated on its last occurrence. In Florida there are 128 points that received the information by telegraph at Government expense. Places notified from these distributing centers by mail number 2424, and by railroad train service there is a further extension of the news to 50 additional points. Beyond this is found the enormous distribution by telephone to 33,850 addresses. While the last method of service may not in all cases carry the information to recipients who have fruit or truck interests at stake, most of them are in a position to bring the information to the notice of those who can utilize it to their benefit. In Texas the same means of service are utilized, the total number of addresses served by telegraph, telephone and mail aggregating more than 340,000.

How to utilize the information becomes the next great question. It is obvious that, under certain circumstances, little or nothing can be done. If the cold is unprecedented in severity and duration, immense damage is unavoidable. But this fact need not prevent all advance precautions or the utilization of the means that are found, say, four times out of five. In fact, it is at such times that the foresighted trucker and grower reaps his greatest reward, as the crop which he saves is greatly enhanced in value through the destruction in other sections, or in his own where his neighbors have failed to employ protective measures. In the last freeze in Florida, while immense damage was done, there was no small saving due to the efforts made to protect the vegetables and oranges.

The Weather Bureau has already compiled a vast literature on the methods of frost protection, including also studies of temperature and other weather conditions within the extreme limits of which the protection can be made practicable. So many elements conspire to modify these figures that they cannot be set down within brief space. If a strong wind is blowing, for example, it is readily understood that resort to artificial heating will be ineffectual in warding off damage from a given temperature, whereas this would be entirely successful if the air were calm. Much depends, as well, upon the conditions which follow a slight freeze, as fruit can stand the touch of frost if the thawing out afterward is gradual.

In the methods employed the various forms of artificial heating are those principally followed. These consist in the use of "pots" or cans in some instances, of loose openly exposed fuel in others, and at times in the employment of small tents surrounding the orange trees, with an oil burner within. The fuel may be stove wood, brush logs, wood trash, sawdust, coal or oil. In most instances it is desirable that a dense smoke be obtained, as this tends to prevent the too free radiation of

the heat. As under favorable conditions it is possible to maintain the heat in truck gardens and orange groves at least 10 degrees above that experienced in the surrounding atmosphere, it is evident that, except under extraordinary circumstances, the crops may be saved by artificial heating where otherwise they would be a total loss.

Other methods employed are by covering the growth above ground, in the case of many vegetables, by mats, boards, loose earth or other suitable material. Sometimes the fields are flooded with water, which is drained off when the danger has passed. In the cane-growing districts it is stated by the Weather Bureau that cane that is "windrowed" before freezing, or before the frosted cane has a chance to thaw out, will keep windrowed indefinitely under ordinary weather conditions, and that the grinding can be continued almost throughout the winter. The statement is further made that, while the sugar-cane growers in Louisiana formerly lost from one-half to three-fourths of their crops by the frosts in some seasons, now they never lose more than 10 per cent. to 25 per cent. When a warning of a probable minimum temperature of 26 or 27 degrees is received, the planter puts a large force into the field, which windrow all the seed cane and as much of the other crop as practicable, the windrowing going on even after the cane is frozen. That left standing and frozen is immediately cut and ground, as the standing cane will not spoil for about two weeks afterward. What this method of procedure means to the cane growers may be gathered from the bureau's statement that the receipt of a warning has caused them to windrow from 25 to 50 per cent. of their cane, or a crop valued at \$15,000,000.

Speaking in general terms, any truck grower or sugar planter or orange raiser who loses his crop under temperature conditions that can be overcome by artificial methods if he is warned a sufficient length of time in advance has only himself to blame. Not only has the Weather Bureau, within the limits of human ability to forecast coming freezes, made every provision to do so, but it is ready to get the advance news into every portion of the country where it can be made to serve a useful purpose. Moreover, it has made special studies of the conditions in many of the States of critical temperatures, the best methods of combating the freezes for particular crops, and of co-operating with the growers in their efforts. Among these special studies are those conducted by J. Warren Smith in Ohio, by Charles F. von Herrman in Georgia, and by Alexander J. Mitchell in Florida, as well as those made elsewhere by other officials of the Weather Bureau. The planters and truck growers of the South should establish working relations with the Government Weather Bureau for the protection of their crops wherever this has not already been done.

New Potash Plant Ready to Operate.

A most important addition to the potash supply of the United States comes with the development of a new field of production at Searles Marsh, in the extreme northwest section of San Bernardino county, California, not far from the famous Death Valley country. Secretary Franklin K. Lane of the Department of the Interior is in receipt of information announcing that a large modern potash plant has just been completed by the Pacific Coast Borax and the Solvay Process companies, and that operations will be begun about the first of the month.

It is estimated that the output will be about 1000 tons per month of muriate of potash, 80 per cent. or better pure potash. A new process for the refinement of the raw product has been solved by the two companies, and is reported to be most satisfactorily successful. The new field is included in about 1500 acres of patented land owned by the interested concerns, so that there are no obstacles to the conduct of operations once the machinery is started. Railroad facilities have been extended to the field, and the owners announce that they are "absolutely confident" they will be turning out the tonnage stated.

The operation of this new plant may be expected to arouse wider interest in the development of such industry in this country. This product is mainly used for fertilizing purposes. Heretofore the main production came from Germany, but since the European war this supply has been cut off. Since the outbreak of hostilities the price has risen from \$40 to about \$400 per ton.

Alabama Graphite Deposits

By JOSEPH HYDE PRATT.

On account of the very large advance in the price of graphite, deposits of this mineral in all parts of the country are attracting more or less attention, and this is particularly true of the deposits containing the crystalline or flake graphite, which is suitable for the manufacture of crucibles.

When it is considered that only approximately 20 per cent. of the graphite consumed in the United States is produced in this country, and that the price of graphite is now running from 3½ to 15 cents per pound, it makes any area which contains graphite ore in large quantity, even though the ore may contain but a small per cent. of graphite, a proposition worth serious consideration.

At the present time commercial deposits of graphite are known to occur in New York, Pennsylvania, North Carolina, Alabama, Texas, Colorado, Montana, South Dakota and California, but the principal production is from Alabama, New York, Pennsylvania and Montana. The Alabama deposits at the present time are producing the greater proportion of the production of this mineral in the United States.

Recently the writer had an opportunity to make a brief examination of certain of these Alabama graphite deposits.

Graphite is found rather widely distributed in Clay, Tallapoosa and Coosa counties, and to a less extent in Chilton county, but the main development of the graphite is in Clay county.

The graphite occurs in two forms, one in the mica schists and other highly crystalline rocks, where the graphite occurs in the form of thin crystalline flakes, and second in the Talladega slates, which are feeble crystalline schists in which the graphite is found as a black graphitic clay free from grit.

The best graphite deposits are in the western part of Clay county, on the east slopes of Talladega Mountain. The rocks of this district are largely schists, and in the immediate vicinity of the graphite deposits these schists are composed largely of quartz, and associated with these quartz schists is more or less graphite in the form of thin crystalline flakes.

These bands of graphite schists have a strike of approximately north 70 degrees east, and are dipping approximately 75 degrees south. At several points there was observed associated with these schists narrow dikes of coarse granite or pegmatite. In some of these crystalline plates of graphite were observed. These bands seem to be continuous on the strike for several miles, and are more or less constant in their mineral composition.

It is these bands carrying the graphite which represent the commercial ore, the graphite varying from 1½ to 4 per cent. of graphite. The ore that is mined will run from 2½ to 4 per cent. graphite. These bands of graphite quartz schist vary in width from 50 to approximately 200 feet. In all this district the ore is operated by means of open cuts and pits and taken out in depth to water level. At the present time no ore is being taken out below this level. The face of these cuts will vary from 25 to 100 or more feet.

The railroad center of this graphite district is Ashland, the county-seat of Clay county. The mines are from two to five miles from this town. At the present time there are 14 companies in active operation in the district, not all of them, however, are at the present time producing graphite, as their mills have not been completed. These companies and the estimated output of their mills when completed are as follows:

Alabama Graphite Companies.

Name of Company.	County.	Estimated capacity of mill per day, tons.
Quenelda Graphite Co.....	Clay	200
Alabama Graphite Co.....	Clay	100
Jennings Graphite Co.....	Clay	75
Clay County Graphite Co.....	Clay	50
Crucible Flake Graphite Co.....	Clay	50
Southern Graphite Co.....	Clay	50
*May Brothers.....	Clay	500
*Eagle Graphite Co.....	Clay	100
*Axtion Noe Graphite Co.....	Clay	150
*Southern Star Graphite Co....	Clay	100
*Allen Graphite Co.....	Clay	50
*Griesmer Graphite Co.....	Clay	300
*Flake Town Graphite Co.....	Chilton	100
*Standard Graphite Co.....	Clay	100

*Non-producing mills—not completed.

The non-producing companies mentioned in the above table will all have their mills running probably within

the next six months. Few of the mills run their plants to their full capacity. As the mining of the ore is all done by open cuts and pits, there are many days during the year when it is impossible to work, and therefore it is necessary for each mill to have large concentrating bins in which to store a surplus supply of ore to tide the mills over during those periods when it is impossible to produce ore from the mines.

During the present year, 1917, there should be a very large increase in the production of graphite from the Alabama deposits.

At the present time the two principal producers are the Alabama Graphite Co. and the Quenelda Graphite Co.

The graphite ore is very cheaply mined and delivered to the mills, where it goes through a rather complicated process by which the graphite is separated from the gangue minerals. A large proportion of the graphite comes from the mill as crystalline graphite, only a small percentage being converted into dust or amorphous graphite. The most of the ore is soft, and requires little crushing to bring the material in shape to be fed to the dryer. In nearly all of the mills in this district the ore, after it has been crushed and rolled, is fed to dryers, and from there goes on to screens, which remove a considerable per cent. of the foreign material. The concentrates containing the graphite are then re-fed to rolls, from which it goes to washers, and then to another dryer, from which it is fed to reels, French buhrs, reels, and then to the sacking-room.

There are four products that come from the mill: No. 1 graphite, which will average from 85 to 88 or more per cent. carbon; No. 2 graphite, which will range from 83 to 85 per cent. carbon; No. 3 graphite, containing 70 per cent. carbon, and dust containing 28 to 35 per cent. carbon. There is a good market for all these products, particularly the first two.

As stated above, only about 20 per cent. of the graphite consumed in this country is produced in the United States, notwithstanding the fact that graphite is a very common mineral and occurs widely distributed throughout the country. The main reason has been because of the unreliability of the domestic supply. With the Alabama deposits, however, it is possible for the producer to put on the market a uniform product such as is demanded by the trade.

Graphite has a very wide use, being used in the manufacture of crucibles and crucible covers, stove polish and stove black, paints and pigments, lubricants and greases, foundry facings, lead pencils, boiler graphite, electrical purposes, etc.

One of the principal uses of flake graphite, such as is obtained from these Alabama deposits, is in the manufacture of crucibles, which are used for melting steel, brass, bronze, gold, silver and other metals. The graphite crucible, being composed of almost pure carbon, only volatilizes at a very high temperature, and is practically inert chemically, thus making it of particular value for the manufacture of this type of crucible. The clay which has been used as a binder in graphite crucibles, and has been used also in the manufacture of pencils, has been obtained from Klingenberg, Bavaria. Since the outbreak of the war practically none of this clay has been imported, and the crucible manufacturers have been using up their accumulated reserves, which soon became exhausted. This necessitated the crucible manufacturers to investigate American clays as substitutes. This will open up a market for a certain type of American clay that can be used for this purpose, and there seems to be no reason why American clays cannot be mixed and blended together to give a clay just as satisfactory as the Klingenberg clay. There are certain essential properties that a clay must have to be used as a binder in the manufacture of crucibles, such as plasticity, remain practically unsoftened at a temperature of 2600 F. to 2700 F., and at these high temperatures must not spit or blow.

On account of the European war and the call upon this country for munitions, etc., there has been a large increase in the demand for graphite crucibles, and on account of graphite being used in the manufacture of these crucibles, it becomes one of the mineral resources of vital importance in time of war, and it is very important that the United States Government take stock

of its graphite deposits, which will produce a mineral suitable for the manufacture of crucibles, and also of its clay deposits, to find sources of supply of a clay that will give satisfaction when used as a binder for the graphite in the manufacture of crucibles.

In the following table there is given the production of graphite in the United States during the years 1910 to 1915:

Year.	Amorphous		Crystalline		Total	
	Quantity, Lbs.	Value.	Quantity, Lbs.	Value.	Quantity, Short tons.	Value.
1910.....	2,814,000	\$39,710	5,590,592	\$295,733	4,302	\$335,443
1911.....	2,446,000	32,415	4,790,000	256,050	3,618	288,465
1912.....	4,126,000	32,894	3,543,771	187,689	3,835	220,583
1913.....	4,486,000	39,428	5,064,727	254,328	4,718	293,756
1914.....	3,450,000	38,750	5,230,539	285,368	4,339	324,118
1915.....	2,362,000	12,358	7,074,570	417,273	4,718	429,631

For comparison there is given in the next table the amount of graphite consumed in the United States during the years 1910-1915, which has been made up by adding the amount of graphite produced and the amount imported:

Year.	Produced in United States		Imported		Total	
	Quantity, Short tons.	Value.	Quantity, Short tons.	Value.	Quantity, Short tons.	Value.
1910.....	4,202	\$335,443	25,235	\$1,872,592	29,437	\$2,208,035
1911.....	3,618	288,465	20,702	1,495,729	24,320	1,784,194
1912.....	3,835	220,583	25,643	1,709,337	29,478	1,929,920
1913.....	4,718	293,756	28,879	2,109,791	33,597	2,403,547
1914.....	4,339	324,118	22,002	1,398,261	26,341	1,722,379
1915.....	4,718	429,631	23,075	2,241,163	27,793	2,670,794

The Alabama production for the years 1910-1915 was as follows:

Production of Graphite in Alabama, 1910-1915.		
Year.	Quantity, pounds.	Value.
1910.....	1,577,977	\$54,638
1911.....	820,000	29,000
1912.....	534,100	21,364
1913.....	2,020,910	87,236
1914.....	2,410,200	118,000
1915.....	3,474,800	294,572

The graphite industry of Alabama is now apparently upon a permanent basis. On account of the quantity of ore that exists in the district, several companies are installing plants without having definitely determined whether or not they have sufficient ore with which to supply their mill, and in some instances there will be failures in this district. Taken as a whole, however, the graphite industry of Alabama is an assured industry for many years to come, and should rapidly increase its production and gradually, and perhaps rapidly, replace considerable of the imported graphite.

Goodwater, Ala., Center of Recent Graphite Development.

Birmingham, Ala., March 17.—[Special.]—Goodwater, in Coosa county, Alabama, has been the center of considerable development in the flake graphite industry since the rich graphite ore of that field was discovered, less than one year ago. There has been a rush to obtain the best of the mineral lands and mill sites in that section, so that good graphite lands have generally passed out of the hands of their original owners. One large plant is now in operation, another is nearing completion and a third corporation has been organized and financed to work a rich deposit near Goodwater and to build a plant in the town for refining the products of the mines in that part of the field and to manufacture crucibles and other articles for which flake graphite is used.

Machinery for the Goodwater Graphite Co.'s plant, one mile from Goodwater, was nearly all made in the Birmingham district. The plant will have a capacity of 200 tons of ore per day on an eight hours' run. It is of the type known as the "water flotation" system, as are most of those operating in the Alabama graphite belts. The same men who are behind the Goodwater company have also organized the Royal Graphite Mining & Crucible Co. They are Dr. Eugene Argo, president; T. D. Eppes, general manager; W. L. Shumate and J. D. Hutton. The company's chief plant site and ore supply is about two miles from Goodwater. Mr. Eppes was cashier of the Farmers and Merchants' Bank of Goodwater, and is credited with the discoveries that led to the present developments in Coosa county. He has given up his position with the bank in order to devote his entire time to the graphite properties in which he is interested.

W. E. Caldwell of Louisville, Ky., closed a deal on

March 12 for 400 acres of land containing extensive graphite deposits, and it is stated by his agents that one or more of the pieces of property purchased will be developed at once. S. M. Williams of Fort Smith, Ark., mining and mechanical engineer, who is looking over the ground for Mr. Caldwell, says that he has found unlimited tonnage of high-grade ore there, with abundant water and ideally located mill sites. He will remain in Goodwater to supervise the building of the mills and the further development of the property.

The Heard interests of Jacksonville, Fla., have acquired 1400 acres of land within the graphite belt of Coosa county, and they are having the property surveyed with the view to erecting a chain of mills in this district. J. H. Dowling of Live Oak, Fla., is in Alabama representing the owners, with whom he is associated in other manufacturing enterprises. Their holdings include the Fixico Mining Co. properties, to which the new owners have added recent purchases.

D. M. White and G. D. Gosdin recently made excavations on their property near where the Ceylon Graphite Co.'s plant is in operation and uncovered a mountain of rich graphite ore. It is located three miles from the Central of Georgia Railroad, and about six miles from Goodwater. The industrial department of that road has just published a map of the Goodwater graphite field, which shows the location of the White and Gosdin ore and its proximity to the transmission lines of the Alabama Power Co., also to the new bond issue highway, which connects Goodwater and Sylva.

The high price of flake graphite, due in part to the war in Europe, has had something to do with the rapid development of the Alabama field, but the graphite enthusiasts in Birmingham express the opinion that the product will never be cheap again in this country; that importations from Ceylon, Korea, Madagascar and other points will continue to be affected by the scarcity and high price of ocean tonnage even after the existing embargoes imposed as war measures have been removed.

New Graphite Company Forming in Alabama.

Birmingham, Ala., March 16.—[Special.]—The papers for the incorporation of the Central Graphite Co., which will have its headquarters in this city at 401-2 Jefferson Building, will be filed within a few days at Montgomery, the concern being now in process of formation. It will have a capital stock of \$300,000, and plans to build on 120 acres recently bought in Clay county in the center of the now famous "graphite belt" of Alabama, a complete refining plant with a capacity of approximately 500 tons a day. The plant will cost \$75,000.

This property is in the center of the graphite development of Alabama, which has seen so much progress within the last few years, it being in the center of a two-mile circle which embraces seven of the twenty-one operations in Clay county. The officers of the new company will be Harry Watkins, Sr., president; H. O. Moore, who is the president of the Great Southern Graphite Co., will be the vice-president; E. N. Hamill, secretary and treasurer.

Bids are wanted by Mr. Moore for machinery, equipment, etc.

Offers to Furnish Unlimited Supply of Colored Labor.

REV. E. C. BRANCH, Galveston, Texas.

Kindly allow me to announce through the MANUFACTURERS RECORD, for the benefit of all big industry, that I am in a position to supply any demand of colored labor upon short notice, both skilled and common laborers.

The acreage planted to early potatoes in six Southern States is estimated to be 188,000, as compared with 161,000 in 1916, an increase of about 17 per cent. This estimate is based upon reports to the Truck Crop Specialist of the Bureau of Crop Estimates from Virginia, North Carolina, South Carolina, Florida, Alabama and Texas, the principal early potato sections of the South. In spite of the high cost of seed, plantings are increased in practically all sections except in Eastern Texas.

MARYLAND VIGOROUSLY PREPARES.

Governor Harrington in Front Rank of Executives Who Are Awake to the Perils of the Hour.

Under the leadership of Governor Emerson C. Harrington, Maryland is showing marked activity in developing plans to place the State in a thorough condition of military and industrial preparedness. These plans are broad in scope, and have been developed to fit in with the needs of the National Government.

Last week Governor Harrington attended the conference of Governors, held in Philadelphia, where questions covering the work which the various States could perform were thoroughly discussed. Recently he created a Preparedness and Survey Commission, of which Carl R. Gray, president of the Western Maryland Railroad, is chairman, and which comprises some of the leading business men of the State. This commission is actively at work bringing together all facts necessary to show the part which Maryland industries can perform in the manufacture of munitions and general war supplies and the gathering together of such other data that will enable the State and National governments to have a thorough knowledge of the exact and detailed work which Maryland can be counted upon to do.

Within the next 10 days a thorough military census will be made of those who, under the law, are liable to be called, so that the State will be ready to quickly furnish the full quota of men as they may be needed by the National Government.

Governor Harrington has also appointed a commission to report on the practicability of providing military education for boys and military service for all physically fit men owing allegiance to the State and on the practicability of creating a military reserve in the State. The creation of this commission was authorized by an act of the last State Legislature, and it will immediately start to work to develop plans to thoroughly study and report upon the questions involved.

The location and preparation of suitable camp sites, the bringing together of complete supplies and equipment for the Maryland troops, the question of handling and gathering together adequate food supplies, the transportation details necessary for moving men, equipment and food, and such other details as are necessary to place the State in a thorough condition of preparedness to co-operate with the National Government, are questions that are receiving the earnest attention of Governor Harrington and other State officials.

All of these plans are being pushed with the utmost vigor, and practically most of the time of the State officials as well as that of leading business men is being devoted to this important work, the result of which will be to place Maryland in a position to thoroughly co-operate with the Federal officials in placing the country as quickly as possible upon an adequate military and industrial preparedness basis.

COAL CONTRACTS FOR COMING YEAR.

Price Basis on a Higher Level—Great Increase in Eastern Kentucky Tonnages in Spite of Shortage of Cars.

[Special Correspondence Manufacturers Record.]

Knoxville, Tenn., March 19.

In view of the fact that April 1 is generally recognized as the beginning of the coal-contracting season, a review of conditions prevailing during the past winter and a prediction for the coming season will be interesting to every steam-plant owner in the South, as well as to every individual user of domestic coal.

In view of the recent article, "The Breakdown of American Railway System," on the front cover of the MANUFACTURERS RECORD, it is not surprising to learn that steam and domestic users of coal dependent on the Kentucky-Tennessee field, as well as all other fields, have had to fight literally for their lives to secure a sufficient supply of coal for their day-to-day requirements.

Until only a few days ago, when warm weather set in, steam and domestic were commanding prices around the \$4 mark at a time which is considered the "tail end" of the season. Furthermore, while new contracts would not in former years be discussed by buyers at this season

of the year, an increasing stream of inquiries has been received by operators, but until the past week operators have been so busy meeting daily demands that they had little time to consider contracts. Now that the demand for domestic and for steam grades used for heating has tapered off, which has enabled the supply of cars to somewhat catch up with demand, operators are sharply brought to realize that they are decidedly short of labor. With not over an average of three days' run a week during the past winter, it is not surprising that labor has sought work in munition and industrial plants, where seven days, double time and premium wages have prevailed. This section is peculiarly fortunate, however, in having native labor that is not quite so transient as foreign labor.

Careful and impartial observers of transportation conditions state that railroads cannot provide the rolling stock, motive power, terminal and trackage facilities within the next summer which should have been provided during the past 10 years. Hence if relief from car shortage occurs during the summer it will be temporary only, and that next winter will see a repetition, to greater or less degree, of a shortage such as has been experienced in the winter just closing.

If the United States becomes involved in war, it is almost a certain fact that the demand for steam coal will be increased rather than diminished.

As to prices for the coming season, it is reported here that the Virginia field, which comes in competition with this field in territory which both can reach, and into which the differential against this field can be absorbed in keen competitive conditions like those of the past winter, began to quote steam for next year at \$2.75, which price it soon raised to \$3. Operators in this field are talking \$3 for steam grades, with the expectation that, as during the past season, it will command a premium and run along with domestic, which will probably start off at \$3.25, with early and sharp advances during the summer if conditions develop as now predicted.

A strong feature of this field is the demand in the North, and particularly in the Northwest, for Kentucky and Tennessee coal, in which territory the demand for steam, gas and domestic coal is so strong that premium prices are paid.

Kentucky coal is today going into Northwestern territory so far west that at one point the freight rate is \$6.55 per ton. Kentucky coal is shipped right into the coal fields of six or seven States, competes with coal from every State shipping into the Northwest, and the volume going into the territory has grown on an all-rail rate. With the granting of a lake rate, petition for which is now before the Interstate Commerce Commission, and which it is confidently expected, it is believed that shipments from this field will increase by leaps and bounds. This demand is not a forced one, but the result of the quality of the coals from this field, and the intelligent and enterprising manner in which they have been marketed by the operators of this field.

Kentucky last year increased her tonnage 25 per cent., running from 20,000,000 tons to 25,000,000 tons, all the increase being from the Northeast and Southeastern fields of the State. Even with handicaps in the way of car shortage, it is safe to predict that the production this year will run to 35,000,000 tons, because of the great development now under way, with new mines opening almost daily. While numerous wagon mines have been opened during the past winter, a consistent and great development for permanent operation is now under way in the entire Eastern Kentucky coal field. Western Kentucky production of about 7,000,000 tons remains about stationary from year to year.

Tennessee produced 6,500,000 tons last year, an increase of 14 per cent., but no great increase will be expected in this State, as many Tennessee operators have already opened new operations in the Harlan and Hazard field, where big seams of high-grade coal are the rule.

Referring again to contracts, it seems to be the tendency of large industrial plants, railways and dealers, as well as the domestic buying public, to make early arrangements for next season. Most buyers seem to hesitate somewhat because of apparently high prices, but, considering transportation prospects, it is difficult to figure where waiting will gain anything of advantage to buyers.

Louisville, Ky., March 12.—[Special.]—New contracts for fuel coal have been placed by several of the large carriers in this district during the past few days, at

prices ranging from 35 to 85 cents a ton higher than the former prices. The Louisville & Nashville Railroad has contracted with the Hazard Coal Operators' Exchange for a year's supply of coal at \$1.75 per ton, the order to be apportioned among several operators in the Hazard (Ky.) district, and calling for approximately 250,000 tons, or nearly one-fourth of the district production. The agreement also abolishes the old system of preferential car supply, cars to be supplied to the several mines of the district according to capacity.

A similar contract has been made by the Chesapeake & Ohio Railroad Co. with the Keyser Coal Co. of Pike county, Kentucky, to take the entire mine output of the Keyser mine for a period of five years at a uniform price of \$1.25 per ton delivered into company cars at mine. The contract means 200,000 tons a year, or 1,000,000 tons during the life of the contract. The Chesapeake & Ohio contract, by taking the entire output, is exempt from the car supply requirements of the Interstate Commerce Commission, and may place as many cars at the Keyser mines as it desires. The company is also negotiating with other coal companies for fuel supply contracts. It is not known what effect this will have on the announced purpose of the company to open mines of its own for supplying company fuel coal.

The amount to be taken from each mine by the Louisville & Nashville has not been fully determined, and is subject to the Interstate Commerce regulations as to car distribution.

Development Activity in Eastern Kentucky Coal Fields.

Whitesburg, Ky., March 17—[Special]—Coal-mining interests of the rapidly-developing Harlan county coal field are arranging to construct an important branch railroad, a feeder of the Louisville & Nashville, from Kilday to Seagraves Creek, eight miles, which will open an extensively rich undeveloped field containing thousands of acres. This property carries at least three workable seams, including the main Harlan vein, which is about seven feet thick and of a fine quality of coal. Dr. A. Gatliff, Williamsburg, Ky.; Judge William Lewis, John A. Creech and C. D. Ball of Harlan and others are organizing one of the strongest companies in the Harlan field for development along the route of the important new branch road, the construction of which will start by April 1.

In the new Martin's Fork field of Harlan county the Wilsonberger Coal Co. will, within the next few days, make its first shipments.

Along Martin's Fork there are several new companies beginning development work on the properties of Judge W. F. Hall of Harlan, the coal having been leased. This coal is nine feet thick—one of the best seams in that field. That territory was reached recently by a branch of the Louisville & Nashville up Martin's Fork. At this time there is every indication that during the year the road will be extended several miles further up Martin's Fork to tap rich undeveloped properties of the Kentonia Corporation and other concerns having large holdings in that section.

Around Whitesburg arrangements are practically complete for the beginning of a new coal development on the J. C. and R. B. Day properties, immediately below here, by J. Henry Hall and others, formerly of the Elkhorn Coal Co. Contracts have already been awarded for the work, and the Louisville & Nashville has promised a freight station, to be known as Bessemer, within the next few days. At least 100 buildings will be erected here. Another development will be at Sandlick Creek, one mile from the corporate limits, on the J. N. Thompson, S. Fairchild and other properties, the development to be launched by J. B. Allen and others of the Hazard coal field. This new work is to start at once, leases having been made.

The South East Coal Co. announces the building of at least 100 additional miners' houses one mile above La Viers, their new operation, to be used by the employees there, as building ground is at a premium at La Viers. A new conveyor and other improved machinery is being added, which will double the output of the plant. At Seco many improvements and additions are being made in the plant belonging to this company. Here they are increasing from about 20 cars daily to 25.

Altogether the Louisville & Nashville will expend several hundred thousand dollars in improvements dur-

ing the year, especially in the rapidly developing coal field above this city.

A large number of new coal companies are coming into the field, and the coal output will probably be doubled this year, which will tax the carrying capacity of the railroads entering this section. The year 1917 will be a big record-breaker in point of tonnage over previous years. There is unusual activity all over Eastern Kentucky, with millions of dollars being expended in new projects.

GULF STATES STEEL CO.

Annual Report Shows Big Earnings and Large Increases in Activities.

Increasing activities by the Gulf States Steel Co., Birmingham, are shown in this corporation's annual report for 1916. The net earnings for the year were \$2,452,510, an increase of about 300 per cent. over 1915, when the net earnings were \$614,673. Referring to its industrial activities, the company's annual report mentions the following: Shannon slope mine, near Oxmoor, Ala., will soon be operating with a 24-hour capacity of 2000 tons of coal; iron furnace at Attalla will blow in during the first week of April; installed 27 by-product ovens with daily capacity 450 tons of coke, this new equipment providing a daily output of 3500 gallons of tar, 12,000 pounds of sulphate of ammonia, 1600 gallons of benzol and 150 gallons tuluol; three mills of plant at Alabama City will begin operations about April 1; ore reserves increased to extent of 5,500,000 tons and coal reserves increased by 300,000 tons; to protect requirements for dolomite an East Birmingham quarry with 12,000,000 tons of high-quality stone was purchased; general improvements and extensions completed the plants; all betterments and purchases financed from earnings.

BOOSTING POTATO CROP OF WESTERN NORTH CAROLINA.

Railroad Manager Urges Farmers to Greatly Increase Acreages, Pointing Out Ideal Climatic Conditions of the Mountain Country.

Raleigh, N. C., March 17—[Special]—Mr. C. B. Penney of the Elkin & Allegheny Railroad Co. is a man with ideas, and he is using them in a splendid way. He has called upon the farmers in the high mountain counties of Allegheny, Ashe and Watauga to grow enough Irish potatoes this year to reduce the price to the consumers in the section of the State east of the mountains, who are paying as much as \$1 a peck. Mr. Penney is a Boston man, and is the general manager of this railway, which State convicts are now building, and which is halfway up the southeastern face of the Blue Ridge.

Mr. Penney asks the question, "How much will the Irish potato crop of this year bring to the farmers of these counties. It will be limited only by the farmers themselves. The world wants potatoes to meet the greatest shortage of foodstuffs since man began to live. The farmers in the United States raise 250,000,000 bushels of potatoes annually—only half of what they ought to raise. The average yield to the acre is only about 100 bushels. Why this small yield? Because really successful potato culture requires a moist and cool climate, which can be found where the altitude is sufficiently high, in such sections the yield ranging from 250 to 400 bushels. It is well known that these ideal conditions prevail in these high mountain counties. You are proud of this superlative qualification, but there you stop. Mr. J. C. McCann of Allegheny county last year (which is not a particularly good one for potato culture) produced potatoes on two acres which he sold for \$750, his profit being \$500. This year he will plant 15 acres, and I predict that he will market at least 4000 bushels and that his profit will exceed \$2500."

Mr. Penney says yet more. He takes Allegheny county as a concrete example, saying there are 1500 farms in it and that on every farm there could easily be raised 500 bushels of potatoes, of which all could be sold except 50 bushels for home use and seed, and that the 675,000 marketed would bring in a profit of not less

than \$400,000. Then he says: "I ask you men of Allegheny county this question: What other crop have you ever grown that did this? Do you know of a farm in Allegheny county that could not raise 500 bushels? I will agree to produce a buyer who will pay cash for every bushel of potatoes you will raise."

The people of Allegheny have notified Mr. Penney that they will adopt his suggestion and will plant at least five times as many potatoes as ever before. Those counties can furnish the whole South with seed potatoes, which have for a number of years come from one county in Maine.

The step Mr. Penney has taken particularly gratified Mr. Hugh G. Chatham, of Elkin, who in a letter to the writer says: "I believe that the MANUFACTURERS RECORD can use this information to great advantage. The MANUFACTURERS RECORD, as you know, goes into the offices of all the cotton mills of the State, and the mills could not do a greater favor to their employees than to encourage them in every way to plant potatoes this year."

F. A. OLDS.

Number of Gas Tractors in Commission on Farms.

To secure data as to the number of gasoline and kerosene tractors to be in actual use on farms during the coming season, the Office of Farm Management, in co-operation with the Bureau of Crop Estimates, U. S. Department of Agriculture, addressed, in February, 1917, inquiries to 32,000 selected correspondents. They were asked to report all tractors which were to be actually used in farm operations this season. Steam-driven tractors, tractors purchased but not delivered, tractors out of commission or not to be used this season and tractors employed for road or work other than farming were to be excluded.

The figures given below indicate the number of tractors the actual ownership of which was clearly established and the intention to use which during the season implied. Mere estimates as to the probable number of tractors in any county were disregarded. The figures, therefore, are offered not as an actual count of all tractors, but as indicating the relative employment of tractors in farming in the different sections:

NUMBER OF FARM TRACTORS (GASOLINE AND KEROSENE) ACTUALLY IN COMMISSION, OWNERSHIP OF WHICH WAS ESTABLISHED CLEARLY.

Alabama.....	313	Nevada.....	19
Arizona.....	23	New Hampshire.....	2
Arkansas.....	336	New Jersey.....	10
California.....	1358	New Mexico.....	4
Colorado.....	525	New York.....	139
Connecticut.....	47	North Carolina.....	42
Delaware.....	34	North Dakota.....	237
Florida.....	71	Ohio.....	124
Georgia.....	543	Oklahoma.....	12
Idaho.....	262	Oregon.....	23
Illinois.....	3202	Pennsylvania.....	56
Indiana.....	1852	Rhode Island.....	9
Iowa.....	2223	South Carolina.....	87
Kansas.....	2287	South Dakota.....	127
Kentucky.....	348	Tennessee.....	46
Louisiana.....	343	Texas.....	236
Maine.....	53	Utah.....	8
Maryland.....	190	Vermont.....	7
Massachusetts.....	91	Virginia.....	44
Michigan.....	945	Washington.....	39
Minnesota.....	1575	West Virginia.....	9
Mississippi.....	377	Wisconsin.....	94
Missouri.....	1141	Wyoming.....	10
Montana.....	808		
Nebraska.....	1773	Total.....	3421

The figures above have been compared with all available data. The numbers in the States east of the Mississippi agree reasonably well with other data, and may be looked upon as fairly complete. In some of the Western States, however, marked discrepancies exist between these figures and those of local or unofficial counts. Such discrepancies are explained, in part, by the number of old tractors which have gone out of commission and by those which the owners do not expect to operate this year. It is likely, also, that the reporters in some of the more sparsely settled sections would have less intimate knowledge of tractors in their territories than would those in the more thickly populated and smaller counties of the East.

Pleasure to Be Identified With Strongest Paper in the South.

L. H. CLARK, Brooks & Clark, Ltd., Crowley, La.

I am enclosing you under this cover check for subscription to your most valuable paper. It always gives me pleasure to extend this subscription and be identified with the strongest paper published in the South.

SLOSS-SHEFFIELD'S BIG YEAR.

Output and Earnings Would Have Been Greater But For Car Shortage.

In the annual report of the Sloss-Sheffield Steel & Iron Co., which has just been issued, it is shown that very nearly 15 1/4 per cent. was earned upon the common stock of \$10,000,000 during 1916, whereas in 1915 there was earned less than 1 1/4 per cent.

President J. C. Maben says that the output was the largest of any year since the formation of the company, being 57 per cent. greater in production than the previous year and 71,000 tons greater than the largest output heretofore. Moreover, he says that the output would have been even considerably larger if it had not been so difficult to keep the furnaces supplied with ore and coke, owing to the scarcity of railroad cars. Frequently the furnaces had to be banked or allowed to "blow light" for a day, and sometimes even for a week. The earnings should be satisfactory, but they would have been much better if the railroads had been able to transport the iron sold. At the end of the year there were 86,604 tons of products in the company's yards for which transportation could not be obtained, and earnings to that extent were reduced. However, the company has sold about seven months' production for future delivery at good figures, which should display a handsome profit this year.

The heavy increase in the production of iron as well as of coal was accomplished by an expenditure of nearly \$800,000 on furnaces and mines, which was paid from earnings or surplus account, for no additional securities have been issued since the company was formed; the comparatively small floating debt was not caused by these expenditures, but by carrying the large amount of iron in the furnace yards. As this product is shipped the debt will be gradually liquidated. There was an average of 5 1/6 furnaces in blast continuously. There were 300,000 tons more coal produced than in any year of the company, and 400,000 tons more than in 1915. There was also produced over 510,000 tons of coke. A number of beehive ovens were rehabilitated and used. The output of the Sloss mines increased 240,000 tons over 1915.

The total income of the company was \$2,319,532, as compared with \$900,075 the year before, and the surplus was \$1,521,675, as compared with \$170,638. The profit and loss surplus was \$5,049,866, as compared with \$3,528,191 a year ago.

It is understood that President J. C. Maben will soon be succeeded by J. N. Wallace of the Central Trust Co., New York, and that Mr. Maben will be made chairman of the board. The directors will soon put in operation 50 remodeled coke ovens, with a daily capacity of 75 tons, so that it will manufacture all its own coke; also will begin mining operations for steam coal, and will have an annual output of 300,000 tons.

Improving Cattle Breed in Mountain Counties of North Carolina.

Raleigh, N. C., March 17.—[Special].—The Legislature enacted a rather novel but extremely useful law for one of the extreme western counties, Mitchell, this requiring the county commissioners to purchase a pure shorthorn bull for each township.

It is quite probable that other counties in the mountain region will follow the example set by Mitchell in requiring its county commissioners to purchase a pure shorthorn bull for each township. In some counties people have privately given such bulls, and in some the banks have given them. In the high counties all the scrub cattle have been weeded out, and great favor is shown shorthorns and Hereford cattle, mainly because they are excellent butter-fat producers and also have big bodies, and so are good for butchering. In one county the writer saw only one Jersey, and a number of farmers said that this breed did not suit them, and that they liked the Guernsey better. Part of the high counties are to a large degree cut off from North Carolina, because the railroads run northward, but there is a tremendous demand for the high quality of beef produced there, and it is well known in the great markets. The biggest shipper in the high mountain regions is Frank Shipley of Valle Crucis. He has only Herefords and shorthorns, and he is building more silos, of which a great many are needed in that region.

Cotton Consumption and Exports.

Locality.	Year.	Cotton consumed during 7 months ending		Cotton on hand Feb. 28.		Cotton spindles active during Feb. (number).
		Feb. (bales.)	Feb. 28. (bales.)	In consuming establishments (bales.)	In public storage and at compresses (bales.)	
United States.....	1917	547,203	3,914,866	2,167,288	3,435,273	33,117,090
	1916	540,733	3,616,464	1,984,821	2,970,799	31,980,240
Cotton-growing States	1917	312,352	2,248,666	1,164,324	3,044,637	13,771,876
	1916	302,362	1,976,713	1,048,529	3,598,370	13,066,339
All other States.....	1917	234,851	1,666,200	1,002,964	330,636	19,345,214
	1916	238,471	1,639,741	936,292	372,429	18,971,361

*Includes 26,454 bales of foreign and 8519 bales of sea-island consumed, 93,796 bales of foreign and 42,167 bales of sea-island held in consuming establishments, and 45,580 bales of foreign and 46,990 bales of sea-island held in public storage.

Linters not included above were 63,403 bales consumed during February in 1917 and 80,526 bales in 1916, 107,910 bales on hand in consuming establishments on February 28, 1917, and 112,516 bales in 1916, and 169,336 bales in public storage and at compresses in 1917, and 186,173 bales in 1916. Linters consumed during seven months ending February 28 amounted to 474,443 bales in 1917 and 526,195 bales in 1916.

EXPORTS OF DOMESTIC COTTON AND LINTERS DURING (running bales)

Country to which Exported.	February		7 months ending February 28.	
	1917	1916	1917	1916
Total	356,039	703,932	4,217,906	3,664,940
United Kingdom.....	162,921	425,128	2,042,405	1,756,447
Germany.....	86,975	89,529	639,510	507,925
France.....	9,237	17,544	493,170	524,863
All other countries.....	86,906	171,740	1,042,011	875,795

*Figures include 35,033 bales of linters exported during February in 1917, and 15,297 bales in 1916, and 163,479 bales for the seven months ending February 28 in 1917, and 79,359 bales in 1916. The distribution for February, 1917, is as follows: United Kingdom, 577; Germany, none; France, 32,490; Italy, none; and all other countries, 2056.

Salesmanship Rated as Key to Success.

In the monthly magazine, *The Business Philosopher*, C. H. Dye, treasurer of the Industrial Development Corporation and Spring-Lock Nut Co. of Chicago, says in part:

"Why salesmanship is more talked about, written about, preached and practiced now than ever before is because men better recognize than ever before that it is the one great force of modern business; the power behind the throne; the Warwick; the king maker of fame and fortune of individual or corporation.

"But salesmanship is more than an opportunity closer. There are those who contend that first you must have opportunity before you can exercise salesmanship. This is to a great extent a fallacious theory, as instances without number in the history of modern business prove that salesmanship creates its own opportunities, seizes them when created for its own, and pushes them to the stage of fruition.

"It is an axiom of business that the average man is not more than 10 per cent. efficient, but when we assume that this vast untapped reservoir of ability is dependent upon circumstances outside the individual control for its development, we are following a line of reasoning that is un-American, un-democratic and positively immoral. For in this day of dissemination of knowledge it is foolish to assert that any man has not the opportunity to develop his own latent ability, and when that ability is developed to in turn evolve his own opportunities and so acquire success in life.

"Some say that the smoothly grinding wheels of business swallow up individuality and stifle opportunity. Yet within 10 years we have seen hewers of opportunity carve out their careers from that so-called overcrowded field of business to positions of pre-eminence.

"It was within this decade that Henry Ford rose from a poor mechanic to the billionaire class. John North Willys butted into the automobile business with no capital, borrowed \$7500, and with a plant on the point of failure, and his own magnificent nerve, ran it into a fortune of \$80,000,000. Charles M. Schwab started as a working man without influence, education or pull, and in a comparatively short time acquired all these things in abundant measure. The steps in his spectacular career are worthy of more than passing notice. Within the past two years he got his second wind, took a broken-down plant, sailed for Europe in the face of the greatest financial depression and cashed in to the tune of many millions of dollars. We have seen the stock of his company go from around \$40 a share to \$700 a share. We have seen him rise to where he is now called the greatest salesman who ever lived.

"Yes, all these men—Ford, Willys, Schwab and the hundred other conspicuous leaders of business and finance—have made and cashed in on their opportunities through salesmanship."

Guadeloupe Wants Steam Coal.

ANDRE BON, Pointe-a-Pitre, Guadeloupe.

Give me addresses of some houses which can export steam coal twice sifted. I am desirous of getting the agency for a firm in that line—a good house.

Increasing Production of Fuel Briquets.

The production of fuel briquets in the United States in 1916 was 295,155 net tons, valued at \$1,445,602, an increase compared with 1915 of 73,618 tons, or 33 per cent., in quantity, and \$409,946, or 40 per cent. in value. The production in 1916 was the greatest recorded, exceeding that of 1914, the previous high record, by 44,520 tons.

This increase in the production of fuel briquets in 1916 is attributed by C. E. Leshner of the United States Geological Survey, Department of the Interior, to the improvement in trade conditions arising from the unusual demand for coal, and to a greater general appreciation of the value of briquets for use as household fuel. During the last two years the product of many of the plants has been so much improved that it gives off less of the heavy, tarry smoke that domestic consumers have found so objectionable. The improvement appears to have been made largely by using asphaltic pitch instead of coal-tar pitch as a binder.

Russia Wants American Products.

FERRUM COMPANY, Post Box 75, Petrograd, Russia.

Being 19 years in the technical and automobile line, until the beginning of the war, in Warsaw and now in Petrograd, we intend to import United States specialties, such as: Automobiles and automobile supplies; electric lamps; electrical supplies; wood and iron-working machinery; locomotives and railway supplies; gas and water tubes; motors; steamboats; belting; roofing; building and engineering supplies.

Induce some American manufacturers, interested in Russian business, to send newest catalogues in two or three copies with lowest export terms and highest dealers' discount, stating the conditions on which they would be inclined to place sole representation for Russia or a certain district of it in our hands.

For \$850,000 Shipyard Additions.

Preparations are being made for the \$850,000 additions (announced in December) planned by the New port News (Va.) Shipbuilding & Drydock Co. An official of the company informs the MANUFACTURERS RECORD that the amount named is to be expended upon changes in present buildings, the erection of additional structures, the purchase of new machinery, general yard improvements, etc., to be executed under the direction of the company's own force. The engineer in charge of building details is G. L. Smith, and the plant engineer in charge of machinery and other equipments is H. P. Phelps.

The Cotton Movement.

In his report of March 10, Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during 228 days of the season was 11,037,366 bales, an increase over the same period last year of 666,198 bales. The exports were 4,194,561 bales, an increase of 442,395 bales. The takings were, by Northern spinners, 2,023,511 bales, a decrease of 263,690 bales; by Southern spinners, 3,466,070 bales, an increase of 400,942 bales.

Metallic Ores and Metal Products.

BONIFACIO LOPEZ Y CIA, 42 Gran Via, Bilbao, Spain.

The products that interest us are metallic ores and manufactures of metals. If you can put us in communication with some houses exporters of these we shall be greatly pleased.

The Iron, Steel and Metal Trades

STEEL PRICES CONTINUE TO ADVANCE.

Sheets Up \$5 a Ton and Other Products Show Higher Tendencies—Threat of Railroad Strike and Embargoes Create Serious Situation—Heavy Steel Buying for Government Account—Pig-Iron Active.

New York, March 19—[Special.]—The steel market now appears to have been sold to a standstill, except in a few lines in which the mills have refused to open their books for deliveries beyond a certain date. Even the smallest mills, that aim to keep their order-books open for early deliveries, are congested with orders. Under these conditions it was only natural that the steel market in general ruled very strong last week, with prices showing an ever-advancing tendency. Following the advances of \$4 a ton in pipe and wire products last Monday week, and bars and shapes of \$7 a ton a week ago Thursday, sheets of all grades were advanced \$5 a ton last week. These advances now cover the entire range of important finished steel products except tinplates, which are practically unquotable at any figure.

The Government was an active buyer of various steel products for munition purposes last week, but, with similar war preparations, considerable secrecy has been maintained regarding them. The mills set the business down for such delivery as is desired, quite irrespective of other obligations, and the prices done with the Government have no regular relation to current market quotations.

American shipyards were besieged with so great a demand for boats last week that plans were put into operation to increase the output. It is significant that the demand is turning from steel boats to wooden craft, on account of the oversold condition of steel mills rolling steel plates and shapes. Many small inquiries were in the market last week for marine boiler plate required for export. Similar inquiries have also come from domestic builders, but for small tonnages. About 1500 tons in the aggregate are wanted, but the plate mills are refusing orders right and left even for hull plates. Eastern Pennsylvania mills are accepting orders only in earload lots for delivery before April, 1918. Some additional contracts for large tonnages for steel plates were placed for delivery in the last quarter of 1918 and in the first quarter of 1919, and in some instances shipments will not be completed before July, 1919.

Eastern Pennsylvania mills, that recently took business at 6½ cents for ship plates, refused last week to consider anything under 7 cents per pound, and would make no concessions for that price. The demand was so pressing that it is stated on good authority that sales in the near future will be made at 10 cents a pound.

Announcements of embargoes by the railroads of the country, absolutely refusing all freight until further notice from all railroad centers of the country and from Canada, on account of the threatened railroad strike, stopped the movement on Friday of last week of steel and metal products, coal, coke and other materials not classified as perishable. This, of course, created a very serious situation in the steel and iron trades, relief from which must be obtained if the trades in all parts of the country are not to be tied up.

An avalanche of orders has fallen upon the steel mills during the past few days. Consumers who had been delaying to cover their requirements were stimulated to action by prospects of even higher prices. The greatest demand was, and is, in ship material and for bars, plates used in the construction of railroad cars, and for the castings and forgings utilized in building locomotives. Shipbuilders last week closed contracts for about 60,000 tons of plates and shapes, of which 30,000 tons were for boats being constructed on the Pacific coast and 24,000 tons for Atlantic coast yards, all for delivery in the second half of 1918 and the first quarter of 1919.

The sheet market has been more or less unquotable of late because it is difficult to buy forward deliveries when the mills are sold up fully to the middle of the year and will not quote for third quarter or second half,

while on the other hand prompt deliveries command a wide range of prices, according to tonnage. Thus the quotable market has been rather lacking in either a lower or upper unit.

Apparently the sheet mills that planned to do a prompt business and secure premium prices have succeeded. A number of mills did not take a great deal of contract business for the present half-year, expecting the market to advance, and the question was whether or not too many mills were trying to play the same game. The evidence up to date is that there were not too many, as the market has been stiffening right along.

Galvanized sheets in light gauges are not now available at less than 7 cents basis, with the special extras for 29 and 30 gauges. The market is regarded as one for second quarter, any earlier delivery being obtainable only with difficulty, and at a special price.

The pig-iron situation last week was most extraordinary in the Eastern territory and in all distributing centers. Although prices have advanced from \$5 to \$10 per ton in recent months, the upward movement apparently has not culminated. The Worthington Pump & Machinery Co. has just followed its recent purchase of 5000 tons of foundry grades for its Harrison (N. J.) plant by coming into the market for its 1918 requirements, asking for tenders on about 28,000 tons. The General Electric Co., too, is sounding the market for its 1918 requirements. In the Buffalo territory sales of No. 2 foundry iron last week were made at \$33 to \$34 at the furnace, and some small lots at even \$35 at the furnace, for shipment over the first quarter of 1918.

Eastern Pennsylvania furnaces are steadily advancing, one producer in the Lehigh Valley that sold No. 2 foundry a few days ago at \$36 per ton is now asking \$38 per ton for shipment over the last half, but is refusing business at \$38 for this year's shipment and \$36 for 1918. Central Pennsylvania furnaces, however, are taking business at \$38 for this year's shipment and \$36 for 1918. Furnaces in the Lehigh and Schuylkill valleys have taken orders in the past few days aggregating about 30,000 tons, including 6000 tons of basic at \$34 furnace and for shipment into Connecticut, and about 10,000 tons for shipment to the Lukens Steel Co. at Coatesville, Pa., at \$35 per ton. Producers, however, are now asking \$35 to \$37 per ton for basic iron. The total purchases last week by the Coatesville interest was nearly 40,000 tons, of which 25,000 tons were obtained in the Pittsburgh district at \$33.25 per ton delivered.

At Buffalo little business was done for quick shipment last week, and while some furnaces quoted \$38 and \$40 per ton at the furnace for No. 2 foundry, other producers found it difficult to make sales at \$2 per ton less.

(Dealers' average buying prices for gross tons.)

Bessemer billets (nominal).....	\$65.00—\$70.00
Open-hearth billets (nominal).....	65.00—70.00
Open-hearth sheet bars.....	65.00
Bessemer sheet bars (nominal).....	65.00
Forging billets.....	65.00
Wire rods.....	50.00—55.00
Tank plates.....	4.50—6.00
Steel bars.....	3.25—3.50
Refined iron bars.....	3.50
Rails.....	55.00—56.00
Steel hoops.....	4.00—4.50
Cold-rolled strip steel.....	7.50—8.00
Sheets, No. 28 gauge.....	5.00—5.25
Galvanized sheets.....	6.75—7.25
Wire nails.....	3.25
Cut nails.....	3.15
Plain fence wire, base.....	4.05
Barb wire, galvanized.....	3.50—3.65
Railroad spikes.....	

PIG-IRON.

Bessemer, Pittsburgh.....	\$36.95—\$37.95
No. 2 foundry.....	36.95—38.95
Basic, valley.....	32.95—33.95
Gray forge (second half) (nominal).....	34.95—35.95
Basic, Philadelphia.....	36.75—37.75
No. 2 foundry, Northern.....	37.75—38.75
Low phosphorus.....	65.00—68.00
No. 2 foundry, Buffalo.....	36.00—38.00
No. 2 South, Cincinnati.....	32.90
Northern foundry, No. 2 Cleveland.....	36.20—38.20

SCRAP-IRON AND STEEL.

Heavy melting steel.....	\$22.00—\$23.00
Old steel rails, rerolling.....	27.00—28.00
Old iron car wheels.....	29.00—30.50
Old steel car wheels.....	26.00—27.00
Steel car axles.....	43.00—45.00
Iron car axles.....	40.00—41.00
Low phosphorus.....	32.00—33.00
No. 1 cast scrap.....	19.50—20.00
Heavy cast scrap.....	18.50—19.00
No. 1 railroad wrought.....	22.00—23.00
Cast borings.....	12.00—12.25
Machine-shop turnings.....	11.75—12.00
Railroad malleable.....	19.00—19.50
Stove plate.....	11.00—12.00

Market Conditions in the Birmingham District

Birmingham, Ala., March 17—[Special.]—Additional burdens were felt during the past week by the pig-iron manufacturers in the Southern territory on top of car shortage and the embargoes instituted in several directions against freight of all kinds. Several of the iron-manufacturing companies announced some time back as being out of the market, but there was a few sales recorded from time to time, the high prices being too flattering. Consumers again begged for delivery of iron during the past week, and while it is announced that the aggregate movements of the week show up better than during the two previous weeks, there is considerable delay noted. Sales were recorded during the past week for 1918 delivery, the statement being made that \$20 had been accepted as the quotation for No. 2 foundry standard. The open market is on a \$30-per-ton basis, and in the language of several of the salesmen of producers, "it is strong at \$30." The announcement is made that with one or two exceptions the pig-iron manufacturing companies in the Birmingham district are in fairly good condition as to raw material supplies. Some of the companies here would be forced to bank fires if there should be any interference for a few days with the daily activities. The Republic, Tennessee Coal, Iron, the Woodward, have their own railway facilities, and would keep up the maximum production of iron. Others, however, are not so fortunate, and even in the past have found it necessary to bank a fire or two because of the supplies of raw material not being up to requirements.

A number of inquiries are in hand for pig-iron, delivery during the last half of the year. Where there has been a large quantity of iron sold ahead the inclination is to remain out of the market, intimation being given that before the end of the second quarter of the year the quotations will have again ascended from \$2 to \$5 per ton. Several small-lot purchases of iron are reported, and the top prices have been made. Special brand and special analysis irons have sold at \$31 in this section already. Furnace company officials in the Birmingham district still maintain there is too much disparity between Southern iron and Valley iron (Ohio), and even the Northern irons.

Many consumers have been wiring urgent requests for delivery on orders placed some time ago, and when the strike discussion started the appeals became more urgent. There is a considerable tonnage of iron on yards in this district.

Coke supplies in the South show but little improvement, though every attention is being given to the industry. It is expected that by the first week in April the by-product coke ovens of the Gulf States Steel Co. at Gadsden will be producing coke to the amount of 450 tons a day. Arrangements have been made for the disposition of the other by-products at this plant, including the tar, sulphate of ammonia, benzol and toluol. Improvements in the methods of handling coke at some of the old-style ovens has had the effect of increasing the output some, the Sloss-Sheffield Steel & Iron Co., for instance, placing a patented shover and loader at some of its ovens. Coke commands a healthy price in the South, both the furnace and foundry product. Sales of foundry coke have been made in Birmingham as high as \$12.50 per ton, while long-time contracts are carrying between \$8 and \$10 per ton, and furnace coke is hard to find under the \$5-per-ton price, and in small lots, new customers being required to pay as much as \$6 and \$7 per ton.

Cast-iron pipe plants are still doing well for winter business, and expectations are for a buying movement. George Long, Louisville, vice-president of the United States Cast Iron Pipe & Foundry Co., in Birmingham recently said that preparations were well in hand on the Argentine order, and that it was to be hoped that business in sight would materialize. Many bids are being made by Southern pipe companies on specifications in various parts of the country. No further advances in pipe quotations are noted.

Foundries and machine shops continue busy, with expectations of the Cuban situation clearing up in time for the big sugar machinery business to set in. Proprietors of foundries and machine shops are confident of steady business through the year.

Quotations are given in the South as follows:

PIG-IRON.

No. 1 foundry and soft.....	\$30.00 to \$31.00
No. 2 foundry and soft.....	29.00 to 30.00
No. 3 foundry.....	28.50 to 29.00

No. 4 foundry.....	\$27.50 to \$28.00
Gray forge.....	25.00 to 27.00
Basic.....	29.00 to 30.00
Charcoal.....	28.00 to 29.00

OLD MATERIAL.

Old steel axles.....	\$35.00 to \$36.00
Old steel rails.....	18.00 to 18.50
No. 1 wrought.....	18.00 to 19.00
Heavy melting steel.....	16.50 to 17.00
No. 1 machinery.....	16.00 to 17.00
Car wheels.....	16.00 to 16.50
Tramcar wheels.....	14.50 to 15.00
Store plate.....	11.00 to 11.50
Shop turnings.....	8.00 to 8.50

STAGNATION STILL RULES IN METAL MARKETS.

Copper Very Dull—Spelter Quiet and Easy—Little Activity in Lead and Tin.

New York, March 19.—[Special.]—The metal markets were very dull affairs last week, little actual business being reported. With war approaching closer and closer, the trade is somewhat at a loss to understand the lack of interest being shown by consumers.

There were a few consumers' inquiries in the copper market during the week, but the orders were all taken care of without in any way disturbing values. Most of the inquiries were for second quarter shipment, and there appeared to be plenty of metal available for this delivery. Although it has been reported time and again that very little copper is available for shipment before July, consumers who took orders last week for finished brass and copper products were able to buy April, May and June electrolytic at prices ranging from 34½ to 35 cents per pound.

The trade was interested in the announcement made

last week that about 35,000 tons, or 78,000,000 pounds, of copper have been lost by German submarine activities since the first of December. One cargo of about 5000 tons went down late last week. The largest tonnage was shipped from the United States to France, but cargoes to Russia and to Italy were also sent to the bottom of the sea. Exports of copper since the first of March have been 9482 tons.

The lead market continued quiet last week, with prices in the outside market ruling a trifle less than heretofore. The producers all reported that they did little in the way of new business, and are devoting most of their energies to straightening out shipping problems. One producer said he had six men on the road who are doing nothing but tracing and locating cars and getting them moved forward to their destinations.

The spelter market last week was in a state of almost absolute stagnation, and even the threatened railroad strike caused no improvement in the demand for spelter located in the East. The trade did not seriously believe that the railroad strike would materialize, but should it take place they figure that it would have an unfavorable effect on the spelter market, inasmuch as it would interfere with consumption more quickly than it would with production.

There is no special change to report regarding the tin market last week except the slightly easier spot situation. Conditions were much quieter and more regular on spot tin than during the previous week, but the price was still at a premium of about two cents a pound over values as existed just before diplomatic relations were broken off with Germany. While there were then, and are now, substantial grounds for fear of loss in transit, consumers naturally feel that their fears were exploited, and they are buying very cautiously.

THE WEEK'S PRICES.

	Copper.		Lead.			
	Lake.	Electrolytic.	A.S. & R. C.	Independent.	Spelter.	Tin.
Monday, March 12.....	35.00—36.00	36.00—36.50	9.00	10.00—10.25	10.80—11.05	53.75
Tuesday, March 13.....	35.00—36.00	36.00—36.50	9.00	10.00—....	10.82½—10.92½	53.37½
Wednesday, March 14.....	35.00—36.00	36.00—36.50	9.00	9.75—10.00	10.77½—10.80½	53.25
Thursday, March 15.....	35.00—36.00	36.00—36.50	9.00	9.75—10.00	10.67½—10.80	53.25
Friday, March 16.....	35.00—36.50	35.75—36.25	9.00	9.75—10.00	10.55—10.80	53.37½

RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

\$4,000,000 DEAL CLOSED.

Kanawha Traction & Electric Co. Acquired by Monongahela Valley Traction.

It is announced that the Monongahela Valley Traction Co., operating electric railways and other public utilities, Fairmont, W. Va., has closed a deal to acquire the Kanawha Traction & Electric Co., which has about 54½ miles of electric railways at Parkersburg, W. Va.; Marietta, O., and other nearby places, thus: City lines at Parkersburg, 13½ miles; Parkersburg to Marietta, 13 miles; city lines at Marietta, 6¾ miles; Marietta to Beverly, O., 21½ miles. There are also 5½ miles of sidings. Total tracks, about 60½ miles, all standard gauge. S. D. Camden is president of the Parkersburg company and J. O. Watson of Fairmont is president of the Monongahela Valley Traction Co. There was recently completed at Parkersburg a new electric generating station. The company there supplies electric light and power as well as street railway service; it also has other generating plants. About \$4,000,000 is included in the deal.

GEORGIA & FLORIDA GETS A ROAD.

Will Now Own Its Entrance to Augusta—Improvements Planned.

Announcement is made at Augusta, Ga., that the receivers of the Georgia & Florida Railway have been authorized to issue certificates to purchase control of the Augusta Southern Railroad, and to also liquidate claims of the Southern Railway Co., amounting to \$235,079, against that line. The certificates will amount to \$500,000, but only part will be employed for this purpose, some being set aside for refunding.

The Augusta Southern Railroad is 83 miles long,

from Augusta via Keyesville and Sandersville to Tennille, Ga., and it will be of advantage to the Georgia & Florida Railroad because it will give it ownership of an entrance to Augusta from Keyesville, 26 miles from that city. Heretofore its trains have used the Augusta Southern to and from Augusta under a trackage arrangement. Now it will have possession of the road, giving it ownership of the entire main line from Augusta to Madison, Fla., 223 miles.

It is stated that the Augusta Southern will continue temporarily to be operated separately; it has been part of the Southern Railway system. Some improvements between Augusta and Keyesville are contemplated, especially as to alignment and grade.

The receivers of the Georgia & Florida Railway are W. R. Sullivan of New York, Harry R. Warfield of Baltimore and Langbourne M. Williams of Richmond. D. F. Kirkland, Augusta, is general manager.

New Freight Station at Roanoke, Va.

The Norfolk & Western Railway Co. has let contract to John P. Pettyjohn & Co. of Lynchburg, Va., to build its proposed new freight station at Roanoke, Va. It is said that the station will cost about \$180,000, but that all the improvements in connection with it will total about \$380,000. It will be situated at Commerce street and Ernest avenue. There will be a two-story brick freight office building 50x104 feet, a freight warehouse 55x740 feet of brick and steel, with rolling doors of steel, and two covered transfer platforms 18 feet wide and 800 feet long. The driveway facilities will be excellent, there being four entrances to the station and yards. The site is already being prepared, and it is expected to begin construction about April 1.

Carolina & Northwestern Repairs Damages.

H. W. Miller, vice-president of the Southern Railway at Atlanta, Ga., has also been elected vice-president of the Carolina & Northwestern Railway, which runs from Chester, S. C., to Edgemont, N. C., 134 miles, via Yorkville, S. C., Gastonia, Lincolnton, Newton, Hickory

and Lenoir, N. C. To account for this it is stated that the Southern Railway holds bonds of the other road upon which it has not received full interest for several years, and that as the Carolina & Northwestern was unable to obtain money elsewhere to repair damage sustained by the flood last summer, the Southern, being a large creditor, has been asked to come to its aid and by its experience as well as financially to assist the Carolina & Northwestern Railway is overcoming its construction difficulties. It was reported that the Southern would take over the road, but this is denied. W. A. Barber, 165 Broadway, New York, is president of the line, and L. T. Nichols, Chester, S. C., is general manager. The directors are T. H. White, S. H. Hardin and J. H. Marion of Chester; C. E. Spencer of Yorkville, S. C.; L. F. Long, Newton, N. C.; J. O. White, Gastonia, N. C., and J. A. Martin of Hickory, N. C.

New Equipment, Etc.

Wheeling & Lake Erie Railway has sold to Kuhn, Loeb & Co. and Blair & Co. of New York \$4,620,000 of 5 per cent. equipment trust certificates dated April 1, 1917, and covering 20 Mallet locomotives, 1000 steel gondola cars of 70 tons capacity and 1000 hopper cars.

Southern Railway is reported to have let contract for 2000 cars to the Pressed Steel Car Co.

Gulf, Sabine & Red River Railway, Orange, Tex., is buying equipment.

Orders for bridge steel are reported as follows: Chesapeake & Ohio Railway, 200 tons from the American Bridge Co.; Pennsylvania Railroad, 400 tons from the same company; Baltimore & Ohio Railroad, 650 tons from the Fort Pitt Bridge Works; Norfolk & Western Railway, 400 tons from the Virginia Bridge & Iron Co.

Midland Valley Railroad has ordered a switching engine from Baldwin's.

Union Tank Line has ordered 2000 tank cars, 1000 each from the American Car & Foundry Co. and the Standard Steel Car Co.

West Kentucky Coal Co. is reported in the market for 300 coal cars.

Chicago, Burlington & Quincy Railway has ordered 125 tank cars of 12,000 gallons capacity from the Standard Steel Car Co.

Truck Gardening on "Right of Way."

The Nashville, Chattanooga & St. Louis Railway, desiring to reduce the high cost of living to its maintenance of way employees, has tendered them the use of its right of way for cultivation. There are 150 sections on the system, and during the spring and summer each section is looked after by from 10 to 12 men. The use of the right of way for gardens would enable several hundred families to have vegetables during the summer, and in many instances these gardens will be the only reliance the forces will have for garden truck. The land has never been in cultivation, and along some stretches of the road should bring splendid results. The only restriction is that such cultivation must not interfere with the operations of the road.

A. H. Larkin Elected Director.

At the annual meeting of the Norfolk Southern Railroad Co. at Norfolk, Va., Adrian H. Larkin of New York was added to the board of directors. He is a member of the firm of Joline, Larkin & Rathbone, 54 Wall street, and he is also a director in several other companies, including Sloss-Sheffield Steel & Iron Co., Pressed Steel Car Co., Davis Creek Coal & Coke Co., Western Steel Car & Foundry Co., etc.

Southern Railway Sells \$4,000,000 Bonds.

The Southern Railway Co. has sold to a syndicate headed by J. P. Morgan & Co. and Brown Bros. of New York the last \$4,000,000 of 5 per cent. first mortgage bonds of the Atlanta & Charlotte Air Line out of a total issue of \$20,000,000, and the proceeds will be devoted to the continued construction of second track to finish the double-tracking of that part of the Southern Railways' main line between Charlotte and Atlanta, the only re-

maining stretch thereon to be let being between Charlotte and Spartanburg. The contract for this is to be awarded soon, and in about a year the entire improvement is expected to be complete. It is further stated that all of the bonds have been sold to investors.

Boston-Washington Through Trains.

It is announced in New York that the operation of through trains over the New York Connecting Railroad, or Hell Gate Bridge route, will begin regularly on April 1. One express train each way daily will at first be operated between Boston and Washington, leaving the respective termini in the evening. A couple of months later it is planned to add another train each way, so that two will be operated in day time as well as two at night.

Short Texas Line to Be Sold.

Announcement is made that the San Antonio, Fredericksburg & Northern Railway will be sold at Fredericksburg, Tex., on May 1 by Joseph D. Sayers, special master, under a decree of the United States District Court. The upset price is \$125,000, and the property consists of the line from Fredericksburg to Fredericksburg Junction, on the San Antonio & Aransas Pass Railway, about 24 miles, besides sidings and switches, making a total of about 26 miles.

Official Changes.

T. M. Schumacher, formerly vice-president, has been elected president of the El Paso & Southwestern Railroad, and James Douglas, formerly president, has been elected chairman of the board for this and associated railroads.

LUMBER

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

Wood Preservative Tests at Forest Products Laboratory.

Madison, Wis., March 15.—[Special.]—Important work started by the Federal Forest Products Laboratory in this city have been brought to a successful conclusion, according to official reports of the work of the laboratory for the last several months. A large part of the work of the laboratory has been for the Southern field, and one of the most important studies has been that of piling preservation in the South Atlantic and Gulf ports for making of timbers under water immune to the marine borers as well as to decay through fungous growth.

An inspection of the piling installed at Gulfport, Miss., and Pensacola, Fla., at various times since 1910 showed that the pieces treated with straight coal-tar creosote and high-boiling creosote compounds were still in excellent condition. Those treated with high-boiling water-gas-tar creosote were also in good condition, but those treated with the lighter water-gas-tar oils showed marked signs of failure. Piling treated with wood-tar creosotes from both hard and soft woods was badly attacked. Specimens treated with an iron acetate solution were practically destroyed. Piling treated with creosote containing a metal, such as iron or copper in solution, was in better condition than that treated with creosote alone. Creosote to which crude naphthalene was added did not protect the specimens as well as the plain creosote oil. The addition of tar to the oil appeared to be of some slight benefit so far as the protection was concerned, but the penetrations were much more erratic and the result was localized attack where the wood was slightly penetrated.

Field tests were started to determine the amount of oleoresin obtained from long-leaf pine. Several thousand trees were chipped with one-fourth inch streak once a week and some with a one-half inch streak twice a week. The yield obtained from the narrow chipping averages about 20 per cent. less than that from the standard chipping, but is steadily gaining on the standard

method. Double chipping has produced a yield about 30 per cent. greater than the standard method. These tests indicate the possibility of very greatly increasing the yield of turpentine and rosin now secured in the naval stores industry.

A microscopic study of material collected in turpentine camps of Mississippi, Louisiana and Florida clearly demonstrated the advantages of conservative operations. The new annual growth rings formed after the trees were chipped showed that the cell formation began earlier and that more normal wood substance and better yielding resin cells were formed when conservative than when heavy chipping was practiced. The tendency to "dry face" or cease flowing and the danger of killing the trees by too severe wounding were also decreased by conservative chipping.

Lumber Trade Suffering from Inadequate Shipping Facilities.

Statistics reaching the office of the National Lumber Manufacturing Association show that the car shortage has probably reached its peak as regards lumber shipments. The situation could hardly be worse. The last weekly report of the West Coast Lumberman's Association shows that 130 mills only loaded out 1270 cars for transcontinental markets for the week ending March 8, this constituting a new low record and being 1000 cars short of requirements. As a result a new policy of restricted order acceptances went into effect. Plenty of business was offered, but refused because of inability to make shipments. Many of the largest mills are said to have ordered their salesmen off the road, especially in eastern and middle western territory.

The Southern Pine Association reports also show the effect of the car shortage. With orders at nearly normal, shipments, owing to car shortage, have been more than 20 per cent. below normal, and the mills have in consequence partially curtailed production to a little over 10 per cent. less than new orders.

In Detroit there are reports of a lumber famine, with stocks from 30 to 40 per cent. lower than they should be. The lumber dealers blame poor shipping facilities and railway inefficiency for the situation, not so much car shortage, as failure of the roads to switch cars so they can be unloaded. W. L. Brownlee, head of the Detroit Lumber Board of Trade, recently said: "Our firm is getting in 1000 feet a day and shipping 3000 when we can."

Renewed activity in car building is bringing lumber orders. Recent contracts call for nearly 50,000,000 feet, with as much more in sight in expected car orders. Cars for the Pere Marquette Railroad and the Louisville & Nashville will call for 5,000,000 feet or more each.

Advertising Campaign by Lumbermen.

On March 8 one of the biggest developments in the extension of the lumber industry by advertising opened in the four States—Kansas, Oklahoma, Arkansas, Missouri—which comprise the territory of the Southwestern Lumbermen's Association, when a page advertisement was printed in the metropolitan dailies of all four States and in the farm weeklies. The advertisement is also being placed by local retailers in their own names in smaller papers all over the four States, and is entitled "The Facts About the Lumber Business." Government reports on low prices for lumber, retail and manufacturing profits and similar information was thus distributed to a circulation of millions of readers.

Developing Kentucky Fluorspar.

Additional new machinery will be installed for increasing the fluorspar output of the North American Fluorspar and Lead Corporation, Smithland, Ky., contract having been awarded for this equipment. The company has three mines in Livingston county, and appraises its property with plant at \$750,000, of which \$75,000 was invested for developments during 1916. Its Royal mine has a 9x12 double-compartment shaft, 217 feet deep, sunk according to the management's ideas, away from the vein, in order to make it a permanent working shaft. An electric-light plant is included with the company's facilities, and the mine's betterments are expected to insure a daily production of 150 tons.

Good Roads and Streets

SOUTHERN HIGHWAY ACTIVITIES.

Details in regard to road and street undertakings and bond issues, briefly mentioned below, are given under the proper headings in our "Construction Department" and "New Securities," published elsewhere in this issue.

Bonds Voted.

Bartow, Fla.—Polk county voted \$40,000 bonds for road construction.
Colfax, La.—Grant Parish voted \$150,000 bonds for road construction.
Dunn, N. C.—City issued \$100,000 bonds to improve streets.
Gaffney, S. C.—Cherokee county voted \$225,000 bonds for road construction.
Jonesboro, Tenn.—Washington county voted \$750,000 bonds to construct roads.
Lafayette, La.—Lafayette parish voted \$300,000 bonds for gravel roads and plans contemplate constructing 50 miles of these highways.
Liberty, Miss.—Amite county voted \$50,000 bonds for building gravel highways.
Marion, N. C.—City voted \$40,000 bonds for street paving.
Okemah, Okla.—Okfuskee county voted \$99,000 bonds for road improvements.
Plainview, Tex.—City voted \$40,000 bonds for street paving.
Tishomingo, Okla.—Johnston county voted \$42,500 bonds for road construction.

Bonds to Be Voted.

Attalla, Ala.—City votes April 12 on \$11,000 bonds for streets, etc.
Georgetown, Tex.—Williamson county votes April 17 on issuing \$500,000 bonds for road construction.
Greenville, Tenn.—Greene county votes March 31 on \$510,000 bonds for highway improvements.
Hazard, Ky.—Perry county votes April 5 on \$150,000 bonds for road construction.
Paris, Tex.—Lamar county votes April 28 on issuing \$1,000,000 bonds for road construction.

Contracts Awarded.

Baltimore, Md.—City awarded contracts to pave 16 streets in northeastern annex and 15 in northwestern annex with asphalt.
Baltimore, Md.—City awarded \$253,000 contract for asphalt street paving.
Baltimore, Md.—City awarded contract for 35,000 square yards sheet asphalt paving, 3400 square yards vitrified brick, 25,000 cubic yards grading and 20,000 linear feet concrete curb.
Caldwell, Tex.—Burleson county awarded \$12,500 contract for road grading and surfacing.
Canton, N. C.—City awarded contract to pave 20,000 square yards of streets with concrete; concrete curbing.
Charleston, S. C.—City awarded \$41,585 contract to construct roadway.
Edna, Tex.—Jackson county awarded contract for road construction; \$52,000 available.
Florence, Ala.—Lauderdale county awarded contracts to improve 5 miles of roads.
Iuka, Miss.—Tishomingo county awarded contract for 6 miles of gravel roads; \$12,000 available.
Jacksonville, Fla.—City awarded contract for 20,196 square yards bitulithic pavement on 6-inch concrete base.
Kansas City, Mo.—City awarded \$20,500 contract to grade and pave boulevard.
Roanoke, Ala.—City awarded contract for 10,000 to 20,000 square yards brick paving; \$30,000 available.
Rocky Mount, N. C.—City awarded contract to construct bitulithic pavement; \$50,000 available.
Russellville, Ky.—Logan county awarded \$40,000 contracts for 9½ miles of road.

Contracts to Be Awarded.

Baltimore, Md.—City receives bids until March 28 for 48,200 square yards sheet asphalt paving, 29,200

linear feet armored concrete curb and circles in place, 3400 square yards Hillside brick and 6700 cubic yards grading.

Barbourville, Ky.—Knox county asks bids until April 3 for constructing about 14 miles of road.

Dalton, Ga.—City will construct asphalt, concrete or log-cut brick paving to cost about \$30,000.

Fairmont, W. Va.—Marion county receives bids until April 27 to construct 31 miles of roads and streets.

Fairmont, W. Va.—Marion county asks bids until April 25 to construct 22 miles of roads and streets.

Greenville, Miss.—Washington county asks bids April 12 to surface with concrete \$30,000 square yards road.

Hattiesburg, Miss.—Forest county asks bids until May 7 to construct gravel road; \$130,000 available.

Princess Anne, Va.—Princess Anne county receives bids until March 26 to construct 2.6 miles of State-aid sand-clay road.

Quincy, Fla.—City will expend \$50,000 to \$75,000 for paving.

San Marcos, Tex.—Hays county will construct 10 miles of gravel road.

Smithfield, N. C.—City invites bids until April 6 for 15,000 square yards of asphalt, bitulithic or other paving, 3000 linear feet of granite curb, 8000 feet of concrete gutter, 3000 square yards of sidewalk, etc.

Tampa, Fla.—Hillsborough county will construct 54 miles of hard-surface roads.

Thomasville, Ga.—City will construct paving and street improvements; cost \$200,000.

New Florida Highway to Be Opened Up.

William T. Wells, Melbourne, Indian River, Fla., writes to the MANUFACTURERS RECORD regarding the Melbourne-Kissimmee road: "The County Commissioner of the Third District has now given me the following facts:

"The road extending west from Melbourne is now practically complete to the St. Johns River. The fill in the river will be about one mile long, and two crews are working day and night to complete it. The bridge proper will be 500 feet long, and the materials are on the ground. The western six miles of the road in Brevard county is now about done, which, with the seven and one-half miles from the river to the east, makes 13½ miles of the road in Brevard county.

"The road in Osceola county is now passable from the western line of the county to Kissimmee, and a contract has been let for a brick road for part of the distance, namely, from St. Cloud to Kissimmee.

"We expect to be able to drive our autos from Melbourne to the central cities of the State in two months, perhaps a little sooner.

"Hiram Platt is the County Commissioner of this road district, and is in charge, and B. F. Johnston is the supervising engineer employed by the county.

"This cross-State road will be the farthest south of the roads leading directly across the State, and when completed will connect the Atlantic Ocean and the Gulf of Mexico by a hard-surfaced highway only about 130 miles long, or just a nice morning run.

"We expect that with the opening up of the ocean front property here, especially the development of "Indianalantic," that hundreds of cars from the center and west part of Florida will come here during the summer months to take advantage of the surf bathing in the ocean."

Baltimore Paving Contracts for \$253,000.

Additional paving and street improvements have been contracted for by the municipal officials of Baltimore, including one contract for asphalt street paving to cost \$253,000. This contract was awarded to the American Paving & Contracting Co. of Baltimore, and another contract, awarded to the Baltimore Asphalt Block & Tile Co., calls for 35,000 square yards of sheet asphalt paving, 3400 square yards of vitrified brick, 20,000 linear feet of concrete curb, 25,000 cubic yards of grading.

Road Bonds for \$1,250,000.

Road bonds to the amount of \$750,000 have been voted by Washington county, Tennessee. The county commissioners, county seat at Jonesboro, will at once

proceed to arrange for construction and about 250 miles of highway is planned. Macadam, with perhaps some concrete, and macadam with asphalt oil dressing, are contemplated, the engineer not having been selected. On April 17 this county will vote on an additional issue of \$500,000 bonds for grading and macadamizing roads.

Paving Improvements to Cost \$200,000.

The city of Thomasville, Ga., will arrange for paving and accompanying street improvements to cost \$200,000, and expects to be ready for construction proposals within 90 days. The J. B. McCrary Company of Atlanta has been engaged as the engineer.

Road Bonds for \$510,000.

Additional highway grading and macadam construction is planned for Greene county, Tennessee, and the county commissioners, county-seat at Greeneville, have ordered an election for March 31 to vote on issuing \$510,000 bonds.

TEXTILES

\$630,000 Cotton Mill Addition.

An investment of \$630,000 will be required for the additional mill, mentioned in February, of the Roanoke Mills Co. at Roanoke Rapids, N. C. All details have been determined, and the company sends particulars to the MANUFACTURERS RECORD. The main mill will be 542 feet long by 157 feet 8 inches wide, of concrete construction, with fenestra sash, costing \$100,000, with other auxiliary buildings, according to plans and specifications by J. E. Serrine, engineer-architect, Greenville, S. C., bids to be opened about April 20. The machinery will include 23,184 spindles, with a 900-horse-power electric drive, for a daily capacity of 10,000 pounds of cotton yarn, and later 700 wide looms will be added. About \$530,000 will be the cost of the new equipment, for which bids have been placed.

Ellerbe Knitting Mills.

Final details have been determined for the Ellerbe (N. C.) Knitting Mills, recently incorporated, the daily capacity to be 200 dozen or more pairs of hosiery. Organization has been effected with \$25,000 capital and W. R. Howell, president; B. B. Farlow, vice-president; J. R. Bennett, secretary and treasurer. Fifty or more knitting machines with accompanying equipment, costing \$15,000, a 50-horse-power steam-power plant with belt drive and other machinery will be installed. All machinery has been purchased, except the knitters, on which proposals are now invited. The mill building will be one-story high and 184 feet long by 44 feet wide, of brick construction, costing \$7500, being erected by day labor under the supervision of B. C. Crawford.

For Spinning Hosiery Yarns.

Construction is progressing upon the Erlanger Cotton Mills addition at Lexington, N. C., the equipment to include 5000 spindles with accompanying machinery for manufacturing No. 20 single hosiery yarns. The company sends the MANUFACTURERS RECORD particulars of this enlargement, and states that it will be equipped with individual electric-motor drives, the electricity being furnished from the company's own individual steam-electric power plant. The new building will have brick sides and end walls with reinforced columns and ceilings, using steel sash.

Plans for 10,000-Spindle Mill.

Two thousand pounds of cotton yarn will be the daily capacity of the A. M. Smyre Manufacturing Co., Gastonia, N. C., mentioned in January as incorporated with \$400,000 capital. Fred L. Smyre advises the MANUFACTURERS RECORD that R. C. Biberstein, Char-

lotte, N. C., is the architect-engineer for the plant, and the buildings will be of brick construction, but the dimensions and other details have not been determined. The equipment will include 10,000 spindles with accompanying machinery and the electric-power drive. This company has organized with these officers: J. Lee Robinson, president; J. O. White vice-president; Fred L. Smyre, secretary-treasurer.

To Add 1322 Looms.

A total of 1322 automatic looms will be installed by the Victor-Monaghan Mills of Greenville, S. C., and the contract for this new weaving machinery has been awarded to the Draper Company of Hopedale, Mass. The mill company is installing a Stuart W. Cramer (Charlotte, N. C.) humidifying system in its Monaghan plant at Greenville and its Victor plant at Greer, S. C. Its installation of 1322 looms will be distributed as follows: 490 for Ottaray plant at Union; 450 for Seneca plant at Seneca; 382 for Walhalla plant at Walhalla; all in South Carolina.

To Add 5000 New Spindles.

The Maginnis Cotton Mills, New Orleans, will install 5000 additional new spindles with accompanying opening, picking and carding machinery. This company so advises the MANUFACTURERS RECORD, and states that it has not decided to increase its mill to the extent which had been anticipated. It is now arranging contracts for the additions, which will largely increase its production of cotton sheetings, ducks, osenaburgs, etc.

450,000 Pairs of Cotton Hose.

A contract to manufacture 450,000 pairs of knit hose for the Navy Department of the United States has been awarded to the Durham (N. C.) Hosiery Mills. It calls for delivery within 60 days, and this feature of the order will be ensured. The company has various mills with a daily capacity of 17,000 dozen pairs of hose, and this Government contract is to be supplied from the branch at High Point, N. C. This Government contract amounts to \$67,500.

Textile Notes.

A 112x40-foot addition will be erected to the plant of the Dayton (Tenn.) Hosiery Mills.

The Standard Processing Co., Chattanooga, will build a \$16,000 brick-construction addition and equip it with machinery for mercerizing cotton products.

The Paducah (Ky.) Hosiery Mills will double capacity by erecting an additional 63x60-foot building and installing an equipment of new machinery.

Damask and towels will be woven by the Piedmont Commission Co., Charlotte, N. C., which has purchased 150 narrow and 12 broad looms for this plant.

The Clinchfield Hosiery Mills, Bristol, Va., has been incorporated with Sherwood E. Hall, president, and Edward C. Bailly, secretary, both of White Plains, New York.

The Jackson Cotton Mills, Iva, S. C., will augment steam-power plant by electricity, using 300 horsepower, to be furnished by the Southern Public Utilities Co. of Charlotte, N. C.

R. J. Walker, J. H. Cutler and George N. Hiss have incorporated the Charlotte (N. C.) Knitting Co. with a capital of \$125,000. This company has a two-story 190x50-foot building in which it will install machinery for knitting hosiery. It will build additions for dye-house and boiler sheds.

Contract for erecting the Kingsport (Tenn.) Hosiery Mills' building has been awarded at \$45,976 to the Park-Grimes Company of Chattanooga. This will be a four-story 300x60-foot structure, of brick, according to plans and specifications by W. H. Sears of Chattanooga. The Kingsport company (organization with \$500,000 capital and other details announced in February) will install 600 knitting machines, with accompanying equipment.

Construction Department

IN ORDER TO FOLLOW UP

Properly the Construction Department items, please bear in mind the following statements:

EXPLANATORY

The MANUFACTURERS RECORD seeks to verify the items reported in its Construction Department by full investigation. It is often impossible to do this before the item must be printed or else lose its value as news, and in some items it is found advisable to make statements as "reported" or "rumored," and not as positive information. If our readers will note these points they will see the necessity of the discrimination. We are always glad to have our attention called to errors that may occur.

HOW TO ADDRESS

The name of one or more incorporators of a newly incorporated enterprise should always be written on letter addressed to the official headquarters or to the town of the parties sought, as may be shown in the item. Sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. By following these general directions the post-office will generally be enabled to deliver your mail promptly, although it is inevitable that some failure by the postal authorities to deliver mail to new concerns will occur, as our reports are often published before new companies are known and before they have any established office for the receipt of mail.

WRITE PERSONAL LETTERS

In communicating with individuals and firms reported in these columns a letter written specifically about the matter reported will receive better and quicker attention than a circular. In most instances a return postal card or addressed and stamped envelope should be enclosed with letter.

In correspondence relating to information published in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

DAILY BULLETIN

The Daily Bulletin of the Manufacturers Record is published every business day in order to give the earliest possible news about new industrial, commercial, building, railroad and financial enterprises organized in the South and Southwest. It is invaluable to manufacturers, contractors, engineers and all others who want to get in touch at the earliest moment with new undertakings, or the enlargement of established enterprises. The subscription price is \$25 per year.

All advertising contracts in the Manufacturers Record for three months or longer include a subscription to the Daily Bulletin for the contract period, as well as a subscription to the Manufacturers Record.

BRIDGES, CULVERTS, VIADUCTS

Fla., Fort Myers.—Lee County, Caloosahatchee Valley Highway Special Road and Bridge Dist., let contract W. R. Wallace & Co. at \$11,940 to construct steel and concrete bridge over Billy's Creek.

Fla., Pensacola.—City will construct bridge and fill across head of Lake Tohopekaliga; cost \$3000; L. R. Farmer, Road Supt.

Ga., Oglethorpe.—Macon County voted \$100,000 bonds to construct and improve bridges. Address County Commrs. (Lately noted.)

Ga., Oglethorpe.—Macon County, A. H. Perry, Clerk County Commrs., voted \$100,000 bonds for bridge building. (Noted in March.)

N. C., Newton.—Catawba and Iredell counties ask bids until April 9 to construct sub-structure of Island Ford and Buffalo Shoals bridges across Catawba River. (See Machinery Wanted—Bridge Sub-Structure.)

N. C., Newton.—Catawba and Caldwell counties ask bids to be opened at Newton April 9 for sub-structure work on Horsford bridge across Catawba River; W. J. Harrington, Chmn. Caldwell County Commrs.; Osborne Brown, Chmn. Catawba County Commrs. (See Machinery Wanted—Bridge Sub-structure.)

N. C., Salisbury.—Southern Ry., W. H. Wells, Chief Engr. Constr., Washington, D. C., will replace frame trestle along line from Salisbury to Morristown, Tenn., 228 mi., with steel and concrete structures; work includes construction of 18 steel bridges to replace lighter structures, encasing of 5 stone and brick arches in reinforced concrete, elimination of 119 wooden trestles by construction of 6 underpasses for highway and 14 concrete culverts; filling of remaining trestles, placing large concrete and cast-iron pipe for drainage; Consolidated Engineering Co., Calvert Bldg., Baltimore, Md., has contract for concrete work from Salisbury to Asheville, and H. C. McCrary of Knoxville, Tenn., from Morristown to Asheville.

Okla., Eufaula.—Jefferson Highway Bridge Co., capital \$75,000, incptd. by Carl W. Gust, C. E. Foley and K. L. Simpson.

Okla., Sand Springs.—Tulsa County Commissioners, Lewis Cline, County Clerk, Tulsa, Okla., ask bids for April 2 to remove pres-

ent bridge, construct sub-structure, re-erect and furnish extra spans for proposed bridge across Arkansas River. (See Machinery Wanted—Bridge.)

Okla., Waynoka.—Woods County Commrs., Alva, Okla., voted to construct bridge across Cimarron River; length 400 ft.; cost \$50,000. (Lately noted under Okla., Alva, to have voted \$50,000 bonds for bridge construction in Waynoka Township.)

W. Va., Clendenin.—Kanawha County let contract Virginia Bridge & Iron Co., Roanoke, Va., at \$8849 to construct 2-span steel truss bridge across Big Sandy Creek; concrete flooring; P. J. Walsh, Engr., 507 Kanawha St., Charleston. (Lately noted inviting bids.)

CANNING AND PACKING PLANTS

Ala., Birmingham.—Alabama Marketing & Canning Co., 2130 Morris Ave., C. F. Bell, Prest., lately noted organized and to enlarge cannery of Wade Bros., advises Manufacturers Record: Leased building for the present; install canning machinery for local (Birmingham) plant and for small plants in the State. (See Machinery Wanted—Boilers.)

Ala., Prichard.—A. D. Davis Packing Co., 105 S. Royal St., Mobile, let all contracts for packing plant; S. A. Darnell, Constr. Engr., Mobile, advises Manufacturers Record: Two-story and basement 145x67-ft. mill-construction building with brick walls, costing \$40,000; Jett-Muths Construction Co., Contr., Mobile; Nenschien & McLaren, Archts., Chicago; install fertilizer equipment and packing-house machinery; contract for packing-house machinery let to Albright-Neil Co., Chicago. (Supersedes recent item.)

Ky., Paducah.—Hulen-Blackledge-Nellis Co. (care of Paducah Board of Trade) will establish plant to manufacture tomato catsup and canned foods.

La., New Orleans.—Morris & Co., Chicago, purchased Crescent City Slaughter House Co. plant for \$500,000; proposes extensive improvements with increases of facilities for killing and packing meat; properties include 60 acres of land, 800-ft. frontage on Mississippi River, abattoir with equipment, etc.; handle cattle, sheep and hogs.

Md., Taneytown.—A. W. Feaser of Silver

Run (R. D. from Westminster) is reported to build corn cannery.

Miss., Laurel.—Laurel Commercial Club, Glen Fleming, Acting Secy., is interested to locate canning plant to make specialty of sweet potatoes; also a meat-curing plant.

S. C., Pageland.—A. H. Mangum & Co. contemplate erection of canning factory, daily capacity 20,000 cans; principally tomatoes, berries, beans and sweet potatoes. (See Machinery Wanted—Canning Machinery.)

Tex., Teague.—American Real Estate Co., R. W. E. Thompson, Mgr. Land Sales Dept., 618 Busch Bldg., Dallas; plans to establish cannery. (See Machinery Wanted—Canning Equipment.)

Va., Rice.—W. H. Hubbard's Executors are interested in proposed cannery. (See Machinery Wanted—Canning Machinery.)

CLAYWORKING PLANTS

Ky., Ashland.—Fire Brick—Ashland Fire Brick Co. increased capital from \$200,000 to \$400,000.

N. C., Leaksville.—Bricks.—J. P. Hooper Construction Co. purchased 12 acres land on Dan River; build plant; daily capacity 30,000 bricks; has let contract for machinery.

N. C., Washington.—Bricks and Tile.—Pamlico Brick & Tile Co., capital \$50,000, incptd. by W. D. Faucett, W. H. Lodge and others.

Tenn., Chattanooga.—Banks-Mitchell Co., lately noted incptd., will manufacture concrete drain tile. (See Concrete and Cement Plants.)

COAL MINES AND COKE OVENS

Ala., Beltone.—Beltone Coal & Mining Co., capital \$150,000, incptd.; Chas. B. Teasley, Prest.; C. P. Rogers, Jr., V.-P. and Gen. Mgr.; W. A. Rogers, Secy.-Treas.; acquired American Coal Corp.'s properties at Beltone and is equipping for operation; present opening has daily capacity 700 to 800 tons coal; probably open second mine and increase daily output to 1600 tons.

Ala., Birmingham.—Powhatan Coal & Coke Co., capital \$50,000, incptd.; J. P. Rushton, Prest.; P. R. Jordan, V.-P.; J. H. Tidmore, Gen. Mgr.; R. T. Daniel, Secy.-Treas.

Ala., Cordova.—Disney Coal Co. organized; C. E. Butts, Prest.; A. R. Disney, V.-P. and Mgr.; B. A. Schroder, Secy.-Treas. (Lately noted incptd.)

Ala., Cordova.—Mount Carlo Coal Co., capital \$2000, incptd. by Chas. E. Rice, J. W. Moody and Chas. J. Smith.

Ala., Jasper.—Republic Fuel Co., capital \$10,000, incptd. by Elzo Guthrie, Elbert Guthrie, W. C. Clark and M. E. Nettles.

Ala., Kimberly.—Central Coal Co., J. P. Pearson, Trustee, Birmingham, Ala., plans to develop additional coal mine and increase capacity; present monthly output 11,000 tons.

Ky., Barbourville.—Tiffany Coal Co., capital \$12,000, incptd. by L. L. Richardson, S. S. Dishman and Hunton Tiffany.

Ky., Hazard.—Peacock Coal Co. incptd. by J. W. Alloway, M. A. Petrey and J. E. Jones.

Ky., Harlan.—Richland Coal Co. of Kentucky, capital \$6000, incptd. by E. R. Clayton, Ed Pursiful and J. R. Cameron.

Ky., Pikeville.—Winton Greek Coal Co., capital \$5000, incptd. by A. C. Long, D. R. Coleman, J. H. Adkins and Crit May.

Ky., Pineville.—Kentucky Ridge Coal Co., capital \$6000, incptd. by J. H. Swartz, W. W. Elam and E. W. Fitman.

Ky., Pikeville.—Pompey Coal & Coke Co., capital \$50,000, incptd. by Edgar Rice, E. Lee Trinkle and Thos. A. Palmer.

Ky., Prestonsburg.—Drift Coal Co., capital \$30,000, incptd. by Frank B. Sokol, Emil von Emert, Woldermer Zuendorf and others.

Ky., Prestonsburg.—Drift Coal Co., capital \$30,000, incptd. by Francis B. Sokol, Emil Von Eermert and Waldemar Zuendorf.

Ky., Smalley.—Bucks Branch Coal Co. (Sam M. Lambert and others) will develop coal properties along Beaver Creek, Knott county. (Lately noted incptd. with \$12,000 capital.)

Ky., Viper.—Dakota Block Coal Co., \$30,000 capital, organized by J. R. Johnson and Frank Feetham, Grand Forks, N. D.; A. C. Rhinehart, Hazard, Ky., and others.

Ky., Whitesburg.—W. H. Turner Coal Co.,

Hazard, Ky., leased J. P. Lewis coal lands for development.

Ky., Whitesburg.—Winston Creek Coal Co. organized by D. R. Coleman, J. H. Adkins, Crit May and A. C. Long.

Ky., Whitesburg.—Richland Coal Co., capital \$60,000, organized by E. R. Clayton, Ed Pursiful and J. R. Cameron.

Ky., Williamsburg.—Brown Blue Gem Coal Co. incptd. by W. J. Smith, C. R. Brown, T. H. Early and B. F. Rose.

Okla., Muskogee.—Muskogee Coal Co., capital \$10,000, incptd. by H. G. House, Harry Smith and W. D. Ford.

Okla., Tulsa.—McCoy Coal & Mining Co., capital \$50,000, incptd. by Harold S. Elliott of Tulsa and W. M. Hall of Broken Arrow, Okla.

Va., Honaker.—Tarklin Coal Co. (lately noted incptd., capital \$15,000) will develop 200 acres; B. F. Thompson, Prest.; Perry Thompson, V.-P. and Mgr.; C. W. Fuller, Secy.-Treas. (See Machinery Wanted—Cans; Rails; Drum.)

Va., Tacoma.—Horne Coal Co., capital \$25,000, incptd.; H. I. Horne, Prest.; E. E. Horne, Secy.

Va., Taxewell.—H. and S. Smokeless Coal Co., capital \$25,000, incptd.; A. S. Higginbotham, Prest.; C. W. Steele, Secy.

W. Va., Clarksburg.—Harmer Coal Co., capital \$60,000, incptd. by A. J. Spier, T. H. Williams, E. M. Wilson and others.

W. Va., Clarksburg.—Moyer-Gaskill Coal Co., capital \$5000, incptd. by H. O. Garrison, J. M. Burr, Morrie Steuart and others.

W. Va., Clarksburg.—Alliance Coal Co., capital \$10,000, incptd. by D. A. Cavallare, Vincent Bitoni, Michele Sanguilliano and others.

W. Va., Elkins.—W. H. Greene Coal Co., capital \$25,000, incptd. by A. H. Greene, E. A. Bowers, John F. Brown and others.

W. Va., Fairmont.—Salvatore Coal Co., capital \$10,000, incptd. by C. M. Murphy, J. A. Clark, Jr., Kenna Clark and others.

W. Va., Huntington.—Franz Coal & Lumber Co., capital \$500,000, incptd. by W. E. Deegans, O. J. Deegans, John Faulkner, L. N. Franz and others.

W. Va., Mullens.—Trace Fork Coal Corp., capital \$40,000, chartered by Borden Covell, John N. McLeod, W. Jos. Tracey, all of Boston, and others.

CONCRETE AND CEMENT PLANTS

Tenn., Chattanooga.—Drain Tile.—Banks-Mitchell Co., West 6th and Short Sts., incptd., capital \$5000; L. A. Banks, Prest.; Lon W. Mitchell, V.-P. and Mgr.; A. Shallday, Secy.; leased 150x50-ft. building; purchased mixer and steel forms, cost \$2000; daily capacity 60 lin. ft. 16-in. to 36-in. concrete drain tile.

Tex., Dallas.—Railway Material.—C. F. Massey Co., Chicago (with plants at Newark, Minneapolis, Spokane, Des Moines, Chicago, Memphis, Meridian and Anna, Ill.), leased 5 acres of trackage at Harrys Station in West Dallas; build plant to manufacture reinforced concrete railway material, including pipe up to 8 ft. in diam, piling, bridge slabs, battery wells, etc.

Tex., Gonzales.—Silos.—A. C. Fisher of Fort Worth and others will build interlocking cement stave silo factory.

COTTON COMPRESSES AND GINS

Tenn., Madisonville.—D. W. Brooks, W. H. McCroskey and A. S. Jenkins are interested in erection of cotton gin.

Tex., Lubbock.—M. H. Wolfe & Co. of Dallas will build cotton compress.

COTTONSEED-OIL MILLS

N. C., Laurinburg.—Laurinburg Cotton Oil Co. will rebuild wood fiber plant, mealhouse and cottonseed storage building previously burned; also enlarge oil mill building and install additional machinery.

S. C., Jefferson.—Jefferson Oil & Fertilizer Co., capital \$15,000, incptd. by J. W. Miller and Hade Miller.

S. C., Starr.—Watson Cotton Oil Co. will operate plant by electricity; has contracted with Southern Public Utilities Co. of Charlotte, N. C., to furnish hydro-electric power; will use 200 H. P.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

DRAINAGE SYSTEMS

Ark., England.—Comms. Keo-England Drainage Dist., N. B. Beakley, Chrmn., will construct various ditches: Ditch No. 1, length 1000 ft., maximum cut 12 ft., excavation 2500 cu. yds.; Ditch No. 2, length 3900 ft., maximum cut 6½ ft., excavation 6500 cu. yds.; Ditch No. 3, length 2000 ft., maximum cut 5 ft., excavation 2700 cu. yds.; Ditch No. 4, length 3800 ft., maximum cut 3½ ft., excavation 2600 cu. yds.; all to have 6-ft. base; bids until March 22; Miller Engineering Co., Engr., 621 Southern Bldg., Little Rock. (See Machinery Wanted—Drainage System.)

Ark., Paragould.—Southern Drainage Co. changed name to Southern Drainage & Lumber Co. and increased capital from \$6000 to \$25,000.

Ark., Wynne.—Cross County, Brushy Lake Bayou Drainage Dist., will construct drainage system; \$38,500 yds. earth excavation; 1 main ditch and 4 laterals; let contract March 21; Newson Engineering Co., Engr., Wynne; L. O. Ellis and others, Comms., Hickory Ridge, Ark. (See Machinery Wanted—Drainage System.)

S. C., Anderson.—Eighteen Mile Creek Drainage Dist., John W. Lindley, Chrmn., let contract Wade A. Watson of Anderson to construct drainage canals, rip-rap dams, etc.; main canal 13,000 ft., 14 ft. wide; 17,100 ft., 16 ft. wide; 7900 ft., 18 ft. wide; 11,200 ft., 20 ft. wide; 19,600 ft., 22 ft. wide; bottom widths given, average depth 10 ft., slope ½ to 1; total distance 69,800 ft.; total cu. yds. 408,000; total excavation for lateral canals aggregates 18,384 cu. yds.; W. H. Shearer of Anderson is Engr. and Supt. of Construction. (Lately noted inviting bids.)

S. C., Anderson.—W. H. Tucker, H. G. Anderson, E. M. Dueworth and others let contract Wade A. Watson of Anderson at about \$9000 to drain Big Beaverdam Creek; distance about 7 mi.; excavation 130,000 cu. yds.

S. C., Charleston.—McCready Bros. & Cheves, Civil Engrs., 4 Broad St., invites bids until March 23 to construct 11 mi. of tile drains at Rose Bank Farm, Wadmalaw Island. (See Machinery Wanted—Drain Tile.)

Tenn., Dyersburg.—Bogota Drainage Dist. of Dyer and Obion Counties will construct drainage system; ditch, 5.6 mi. long; depth, 7 ft.; width, 15.5 ft.; 121,000 cu. yds. excavation; clear 40 acres right of way; bids until March 31; W. C. Kelly, Engr., Union City, Tenn. (See Machinery Wanted—Drainage System.)

ELECTRIC PLANTS

Ark., Greenwood.—Coal Dist. Power Co., Hugh Means, Prest., Lawrence, Kans., will improve electric plants at Greenwood, Mansfield, Huntington and Hartford; install \$75,000 worth of machinery; purchased this equipment.

Ark., Hartford.—Coal Dist. Power Co., Hugh Means, Prest., Lawrence, Kans., will improve electric plants at Hartford, Huntington, Mansfield and Greenwood; install \$75,000 worth of machinery; purchased this equipment.

Ark., Huntington.—Coal Dist. Power Co., Hugh Means, Prest., Lawrence, Kans., will improve electric plants at Huntington, Hartford, Mansfield and Greenwood; install \$75,000 worth of machinery; purchased this equipment.

Ark., Mansfield.—Coal District Power Co., Hugh Means, Prest., Lawrence, Kans., will improve electric plants at Mansfield, Greenwood, Huntington and Hartford; install \$75,000 worth of machinery; purchased this equipment.

Fla., Fellsmere.—City, Geo. E. King, Chief Commr., contemplates erection electric-light plant; oil engine about 50 H. P., and suitable generator. (See Machinery Wanted—Engine.)

Fla., Wauchula.—Wauchula Light & Power Co., E. L. Dunn, Gen. Mgr., contemplates installing 2 additional generating units of 100 K. W. each, 23,000 volts, 60-cycle, direct connected to high-speed engines. (See Machinery Wanted—Electrical Machinery.)

Ga., Eastman.—Eastman Electric Light Co. is reported planning extensive improvements and additions to facilities; Marshall & Co., bankers, Boston, Mass., are said to have purchased control.

Ga., Unadilla.—City will construct electric-light plant costing \$10,000. Address The Mayor. (Lately noted.)

Ky., Lexington.—Kentucky Utilities Co. let contract Combs Lumber Co. of Lexington to erect 35-ft. addition to power plant on N. Limestone St.; install 4000 K. W. generator; total cost \$125,000.

Ky., Tompkinsville.—Tompkinsville Light & Ice Co., Hebron Lawrence, official, will (as lately noted) rebuild burned plant; develops 30 H. P.; J. B. Brown, Engr. (See Machinery Wanted—Electrical Equipment.)

Ky., Whitesburg.—W. W. Gibson & Son are preparing plans for electric-light and power plant.

La., Kenner.—City asks bids until April 9 for electric light and power. (See Machinery Wanted—Electric Light and Power.)

Md., Westport.—Consolidated Gas, Electric Light & Power Co., Lexington St. building, Baltimore, contemplates erecting Station "C" of generating plant at Westport; 1 story and basement; concrete and steel; install six 1047 H. P. boilers.

Mo., Barnard.—Maryville Electric Light & Power Co., Maryville, Mo., plans construction of 3-phase, 2200-volt transmission system from Maryville to Barnard, 15 mi.; install 300 to 350 V. A. generator directly connected to Corliss engine.

Mo., St. Louis.—Union Electric Light & Power Co. will erect substation at Broadway and Osage St., South St. Louis; ultimate capacity 15,000 K. W.; receive electricity at 13,200 volts from Ashley St. plant, which it will step down to 2400 volts for distribution; feed line, carrying high-voltage energy, will extend from new station to Continental, 3 mi. south of city, and to Festus, 30 mi. south; also provide space for electric street-lighting equipment; estimated cost \$200,000.

N. C., Cary.—City will construct transmission line connecting with Carolina Power & Light Co., Raleigh, N. C.; contract let to Tucker & Laxton, Charlotte, N. C.; Hines & Co., Local Contrs., to install wiring in houses and throughout city. (See Machinery Wanted—Electrical Equipment.)

FLOUR, FEED AND MEAL MILLS

Ark., Little Rock.—Little Rock Flour Mill Co., capital \$30,000, incptd. by E. H. Stapp and J. H. Nelson of Kevil, Ky.; install mill at 1413 E. Ninth St.; daily capacity 150 bbls.; graham flour, etc.; has equipment. (Lately noted.)

Ga., Macon.—Tollewanda Milling Co. of College Corners, O., is reported as considering erection of flour mill.

N. C., Catawba.—Catawba Ginning Co. is reported as contemplating erection of either roller mill or knitting mill.

N. C., Statesville.—Sterling Mills, B. H. Adams, Prest., and W. B. Brown, Mgr., will expend \$30,000 to erect lately-described buildings; approximate dimensions include 5-story main building 40x50 ft.; 2-story 100x40-ft. wareroom, and grain elevator of 50,000-bu. capacity; ordinary mill construction; date of opening construction bids not set; has purchased machinery, cost, including installation, \$40,000; capacity 500 bbls. flour daily and 30 bu. corn per hour.

N. C., Winston-Salem.—Strathmore Grist Mills Co. of Richmond, Va., is reported as considering establishment of plant to manufacture corn meal.

Okla., Elk City.—Farmers Milling & Supply Co. organized; E. Slate, Prest.; H. E. Oakes, Mangum, Okla., V.-P.; M. W. Hawkins, Secy.; purchased machinery, cost \$7500; flour, meal and feed; daily capacity 50 bbls. (In Feb. noted incptd., capital \$20,000.)

FOUNDRY AND MACHINE PLANTS

Ala., Birmingham.—Pipe, etc.—Southern Pipe & Foundry Co. incptd.; W. L. Stephenson, Prest.; J. C. Hall, V.-P.; H. O. Barnard, Secy.-Treas.

THE OFFICIAL PROPOSAL ADVERTISEMENTS

Appear This Week On Pages 88 and 89

Notices of bond sales, construction and improvement contracts to be let, equipment and supplies to be purchased, franchises offered, etc., inserted in this department bring bids from the most important bond buyers, investors, financial institutions, contractors, engineers, architects, manufacturers, and supply houses throughout the country.

Rate 25 cents per line per insertion.

The PROPOSAL department goes to press 9 A. M. Wednesday for the issue of the following day. If you cannot mail advertisement in time for any particular issue please wire copy by night letter.

Send for booklet of testimonial letters from public officials who have used the PROPOSAL department of the Manufacturers Record, for bond sales, construction work, etc.

S. C., Fountain Inn.—City engaged John N. Ambler, Engr., Winston-Salem, N. C., to prepare estimates of cost of electric-light system; lately noted as contemplating \$50,000 bond issue for electric-light, water and sewer systems. (See Waterworks.)

Tex., Dublin.—Texas Power & Light Co., Dallas, Tex., will rebuild electric-light and power plant; M. P. White, Purchasing Agent.

W. Va., Kingwood.—Preston County Power Co., capital \$5000, incptd. by W. F. Shaffer and Carleton C. Pierce of Kingwood, John F. Pierce of Rowlesburg, W. Va., and others.

W. Va., Princeton.—Athens Power Co., capital \$10,000, incptd. by J. N. Hoylman, F. A. Bohn, R. A. Dangerfield and S. A. Shumate.

FERTILIZER FACTORIES

Fla., Pensacola.—K. Roshalt of Eau Claire, Wis., is reported to establish plant, capitalized at \$25,000, to manufacture plant food from fish heads, etc.; leased buildings and site.

Fla., Tampa.—American Agricultural Chemical Co., 2 Rector St., New York, will build plant with annual capacity 200,000 tons acid phosphate and fertilizer factory; construction in charge of company's engineering department, 92 State St., Boston. (See Miscellaneous Construction and Mining.)

S. C., Jefferson.—Jefferson Oil & Fertilizer Co., capital \$15,000, incptd. by J. W. Miller and H. M. Miller.

Tenn., Nashville.—Armour Fertilizer Works will rebuild acid chamber building and portion of tower building reported burned at estimated loss of \$100,000.

W. Va., Independence.—Agri-Lime & Stone Co., capital \$10,000, incptd. by Jas. H. Irving, C. Turnley, D. J. Walls and others.

Ala., Gadsden.—Plows, etc.—E. V. Wade is interested in organization of company to manufacture motor plows and cultivators.

Ky., Paducah.—Textile Machinery.—Southern Textile Machinery Co., 433 S. Third St., will install 10 additional machines to increase capacity 40 per cent; occupy 60x50-ft. addition to be erected by F. W. Katterjohn, owner of present 100x60-ft. building.

Md., Baltimore.—Pumps and Air Compressors.—Baltimore Pump Co., chartered with \$600,000 capital to succeed Borden Pump Co.; Heyward Taylor, 1122 Munsey Bldg., who recently purchased control of Borden enterprise, will organize this new corporation; manufacture pumps and air compressors.

N. C., Leaksville.—Mill Castings.—T. A. Kearns & Co., South Boston, Va., will erect foundry; 20x70 ft.

N. C., Elizabeth City.—Agricultural Implements.—Pasquotank Pea Picker Co., capital \$25,000, incptd. by F. V. Scott, S. G. Ethridge and W. P. Wood.

Tenn., Cleveland.—Stoves.—Hardwick Stove Co. let contract Chickamauga Quarry & Construction Co. of Chattanooga to erect foundry building; cost \$35,000; plans by Deacon & Alger of Chattanooga; this is first of series of buildings to be erected. (Lately noted to erect 3 fireproof buildings—1 story 180x220 ft., 2 stories 150x250 ft., and 5 stories 100x250 ft., respectively; daily capacity 400 stoves and ranges.)

Tenn., Rockwood.—Pipe.—Tennessee Cast Iron Pipe Co., capital \$100,000, organized; F. H. Clymer, Prest., Kingston, Tenn.; J. R. McWane, V.-P. and Gen. Mgr., Lynchburg, Va.; build foundry for pipe and other similar products.

GAS AND OIL ENTERPRISES

Ala., Mobile.—Cottage Hill Oil Co., capital \$12,000, incptd. by S. C. Calloway of Mobile,

Geo. Winship, J. E. Kerr and others of Atlanta, Ga.

Ala., Montgomery.—Oil Station.—Standard Oil Co. will erect service station; cost \$3000.

Ky., Berea.—Jackson County Oil Co., capital \$40,000, incptd. by D. N. Welch, W. E. Farmer and J. C. Gilbert.

Ky., Irvine.—Consolidated Oil & Gasoline Co., capital \$1,000,000, incptd.; W. P. Williams, Prest., Irvine; Abram Renick, V.-P., Winchester; Jos. Bond, Secy., New York; Jas. C. Marley, Treas., Boston; W. E. Hancock, Asst. Secy.-Treas. and Gen. Mgr., Irvine.

Ky., Louisa.—Gasoline.—United Fuel Gas Co. is reported to install gasoline plant on Three Mile Creek, 3 mi. from Louisa.

Ky., Louisville.—Empire Gas & Fuel Co., capital \$100,000, incptd. by Rodman Grubbs, Jos. W. Fowler, Jr., Wm. A. Rosenfield and others.

Ky., Winchester.—Liberty Oil & Gas Co., capital \$50,000, incptd. by H. S. Gilbert, J. S. Mullins, H. T. Lisle and others; leased 6700 acres in Casey and Pulaski counties.

La., Monroe.—Morehouse Oil & Development Co. increased capital from \$20,000 to \$50,000; will drill additional wells.

Md., East Brooklyn.—Gasoline.—United Motors Fuel Co., financed by members of New York Automobile Chamber of Commerce, New York, is reported contemplating construction of \$1,000,000 plant to manufacture gasoline; has erected 1-story steel and brick construction building for experimental plant and is installing machinery for daily capacity 10,000 gals. gasoline; manufacture motor fuel from Mexican crude-oil distillate now wasted.

Okla., Ardmore.—Four States Oil Co., capital \$25,000, incptd. by C. N. Henderson of Ardmore, G. W. Power and Benj. E. Mobley of New Wilson, Okla.

Okla., Blue Jacket.—Blue Jacket Oil & Gas Co., capital \$150,000, incptd. by T. C. Hamilton and La Salle Holden of Blue Jacket, and Geo. B. Wood of Carthage, Mo.

Okla., Claremore.—Oil Refinery.—Great American Refining Co. organized; J. Wise Brown, Prest.; R. A. Douglas, V.-P.; F. J. Sullivan, Secy.-Treas.; all of Tulsa, Okla.; will build plant to manufacture gasoline and use all by-products of crude oil. (Lately noted incptd. with \$500,000 capital.)

Okla., Cherokee.—Grandoleum Oil & Gas Co., capital \$100,000, incptd. by I. E. Bradley and C. M. Bradley of Cherokee, and J. M. Langston, Jr., Eureka Springs, Ark.

Okla., Enid.—Kneeland Oil & Gas Co., capital \$50,000, incptd. by C. E. Kneeland and R. C. Morrison of Yale, Okla., and Wm. Robinson of Oklahoma City.

Okla., Lenapah.—Lucado Oil & Gas Co., capital \$25,000, incptd. by Geo. Elrod, M. Lynch and T. J. Lucado.

Okla., Mangum.—Russell Petroleum Co., capital \$500,000, incptd. by B. E. Sheeley, C. C. Scott and I. N. Terrill.

Okla., Nowata.—Archer-Kramer Oil Co., capital \$100,000, incptd. by C. W. Goodwin of Nowata, W. T. Archer and C. M. Kramer, both of Ottumwa, Iowa.

Okla., Okmulgee.—Iowa Oil Co., capital \$100,000, incptd. by Fred Phillips and Ed. E. Phillips of Okmulgee, and J. D. Hill of Kansas City.

Okla., Oklahoma City.—Open Loop Oil Co., capital \$50,000, incptd. by W. J. Carter, C. L. McGuire and E. F. Clark.

Okla., Oklahoma City.—Star Petroleum Co., capital \$20,000, incptd. by E. P. Spears and others.

Okla., Oklahoma City.—Knox Petroleum Co., capital \$500,000, incptd. by Geo. W. Knox, Abe Steinberger and C. C. Coombs.

Okla., Oklahoma City.—Kansas-Oklahoma-Texas Oil & Gas Development Co., \$5,000,000 capital, incptd. by T. C. Coffman, J. H. Butts, U. G. Charles, all of Wichita, Kans., and others.

Okla., Oklahoma City.—Mince Oil & Gas Co., capital \$50,000, incptd. by L. K. Blingham, and others.

Okla., Oklahoma City.—Algiers Oil Co., capital \$100,000, incptd. by K. W. Dawson, L. C. Hivick and J. N. Dyer.

Okla., Pauls Valley.—Pauls Valley Oil & Gas Co., capital \$10,000, incptd. by E. P. Duffy, Albert Rennie, Hardee Russell and others.

Okla., Pawnee.—Robt. Watchhorn has municipal franchise to supply natural gas.

Okla., Poteau.—Tetley Oil & Gas Co., capital \$100,000, incptd. by H. N. Cassel of Poteau, J. S. Tetley and W. S. Van Sickle of Fort Smith, Ark.

Okla., Seminole.—Stake Oil & Gas Co., capital \$100,000, incptd. by O. D. Strother, M. E. Johnson and J. R. Simpson.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Okl., Snyder.—Ti-Ki Gas & Oil Co., capital \$50,000, inctpd. by S. D. Bailey, J. M. Otwell and Lee McCord.

Okl., Tulsa.—Crude Oil Producing Co., capital \$25,000, inctpd. by T. E. Sullivan, R. S. Reynolds and F. M. Reynolds, all of Oklahoma City.

Okl., Tulsa.—Clay County Oil & Gas Co., capital \$250,000, inctpd. by John B. Means, N. J. Gubser and Norman J. Curtis.

Okl., Tulsa.—Delawata Oil Co., capital \$50,000, inctpd. by E. E. Sams and L. H. Warwick of Nowata, Okla., and A. N. Kerr of Pittsburgh, Pa.

Okl., Tulsa.—Hurfurd Oil & Gas Co., capital \$10,000, inctpd. by C. H. Overton, W. B. Green and Geo. Hurfurd.

Okl., Tulsa.—Betty Ruth Oil Co., capital \$10,000, inctpd. by F. S. Hurd, Fritz C. Hurd and J. A. Bearman, all of Broken Arrow, Okla.

Okl., Tulsa.—Oklahoma-Kansas-Texas Oil Co., capital \$5000, inctpd. by M. M. Gilbert and others.

Okl., Tulsa.—Sarco Oil & Gas Co., capital \$10,000, inctpd. by A. M. Karr, S. A. Thomas and C. C. Brown.

Okl., Tulsa.—Syndicate Petroleum Co., capital \$150,000, inctpd. by S. L. Friedman, Ray S. Fellows and J. M. Siegel.

Okl., Woodward.—Pittstone Oil & Gas Co., capital \$100,000, inctpd. by R. H. Stone, Chas. L. Brown and W. L. Pittman.

Tex., Beaumont.—Gasoline.—De Soto Gasoline Co. increased capital from \$30,000 to \$120,000.

Tex., Bonham.—Bois d'Arc Creek Oil & Gas Co., capital \$15,000, inctpd. by Tom B. Brown, Ray Peeler and F. C. Parker.

Tex., Corpus Christi.—C. L. Witherspoon of Corsicana, Tex., will receive municipal franchise to furnish natural gas.

Tex., Galveston.—Southwestern Oil & Gas Co., capital \$30,000, inctpd. by B. E. Harris, Sam Boyd, W. F. Barger and others.

Tex., Houston.—Eagle Oil Co., capital \$25,000, inctpd. by Clarence Kendall, T. H. Crawford, G. D. Samuel and others.

Tex., Houston.—Oil Refinery, etc.—H. F. Sinclair, Prest. Sinclair Oil & Refining Corp., and Sinclair Gulf Corp., 129 Broadway, New York, will organize \$25,000,000 company to develop Oklahoma and Mexico properties; purchase Mexican holdings of E. F. Simms and associates; lay 8-in. oil pipe line costing \$6,000,000 from Oklahoma oil fields to Houston; build refinery, on Houston Ship Channel, with daily capacity 15,000 bbls. crude oil; operate oil-carrying steamships between Houston and Tampico, Mexico; deal largely in Mexican crude oil besides handling refined products. (Supersedes recent slightly erroneous item.)

Tex., Wichita Falls.—Little Wichita Oil Co., capital \$30,000, inctpd. by J. W. Stone, T. J. Taylor, F. P. St. Clair and others.

W. Va., Charleston.—Clark-Sayre Oil Co., capital \$10,000, inctpd. by J. I. Clark, R. H. Clark, Ira G. Sayre and others.

HYDRO-ELECTRIC PLANTS

N. C., Spring Hope.—Concrete Dam.—L. M. Edwards, J. B. and J. H. Privette purchased Webb mill property; after confirmation of sale will be ready to let contract for 150x3-ft. concrete dam. Address C. W. Lassiter. (Lately reported to build hydro-electric plant.)

ICE AND COLD-STORAGE PLANTS

Fla., Wauchula.—Wauchula Light & Power Co., E. L. Dunn, Gen. Mgr., will install ice factory, 7 to 10 tons capacity. (See Machinery Wanted—Ice Machinery.)

Mo., Sedalia.—Swift & Co. (main office, Chicago) advises Manufacturers Record: Not decided to install extensive improvements at Sedalia. (Lately reported to erect \$150,000 addition to cold-storage plant.)

Tenn., Chattanooga.—Home Ice Co., capital \$5000, inctpd. by T. Pope Shepherd, W. J. Cotter, E. D. Herron and others.

Tenn., Newport.—Newport Produce Co. advises Manufacturers Record: Organized \$25,000 cold-storage and ice company and will want machinery. (See Machinery Wanted—Ice and Cold-Storage Machinery.)

Tex., Sulphur Springs.—Crystal Ice Co., E. R. Brinker, Mgr., will let contract April 10 to erect lately-noted cold-storage house adjoining ice factory; 105x90-ft. fireproof building; cost \$35,000; for eggs, poultry, etc.; Geo. E. Wells, St. Louis, Mo., Archt. and Constr. Engr.

Va., Luray.—Luray Ice Co. let contract to Mims, Speake & Co., Luray, to construct lately-described cold-storage plant and creamery.

IRON AND STEEL PLANTS

Md., Sparrows Point.—Duplexing Mill.—Bethlehem Steel Co. (South Bethlehem, Pa.) has plans for duplexing mill building, 1000x150 ft.; steel and concrete construction.

Mo., St. Louis.—Rolling Mill.—Railway Tie Corp. (2007 Railway Exchange Bldg.) will build rolling mill as lately reported; writes to Manufacturers Record confirming report and states engineer has been engaged to determine details; latter to be announced when finally decided; manufactures steel ties, bars, angles, tees and all rolling-mill products. Chicago office at 1531 Lytton Bldg., and Philadelphia office at 810 Commercial Trust Bldg.

Tenn., Dayton.—Iron Furnaces, etc.—Dayton Coal & Iron Co. sold to Francis C. Cary, Minneapolis, Minn., and associates; purchase price \$400,000; properties include coal and iron lands, mines with equipment, 2 iron furnaces, etc.; purchasers agree to expend \$100,000 for improvements before court passes deeds of sale.

Tex., Rusk.—Iron Furnace, etc.—Texas Iron Mfg. Co. organized with \$250,000 capital by Frank B. Guinn, W. H. Shook, Jas. I. Perkins and others, all of Austin, Tex.; submitted proposition to State for acquiring abandoned iron furnace, cast-iron pipe plant and foundry; offers to rehabilitate and equip for manufacturing iron, piping and general foundry products; proposition accepted.

LAND DEVELOPMENT

Ark., Texarkana.—Miller County Farm Co., capital \$9000, inctpd. by Fred L. Clark, Prest.; J. W. Bettes, V.-P.; E. H. Peyton, Secy.-Treas.

Fla., Tampa.—Peninsular Development Co., capital \$100,000, inctpd. by Thos. C. Hammond, Prest. and Gen. Mgr.; Val M. Antuono, V.-P.; J. A. Weaver, Treas.; Clarke Knight, Secy.

Md., Baltimore.—East Baltimore Land Co., 506 Munsey Bldg., inctpd. with \$50,000 capital by J. Paul George, J. Aaron George and Frank B. McCann.

Md., Baltimore.—Curtis Bay District Factory Site & Water Front Property Development Co., 440 Equitable Bldg., inctpd. with \$100,000 capital by John Frank Kios, Leo A. Bowes and A. Graham Boggs, Jr.

Md., Cumberland.—Allegany Realty & Development Co., Third National Bank Bldg., organized; Harry Footers, Prest.; Chas. H. Holzshu, V.-P.; P. G. Cowden, Secy.; F. N. Zihlman, Treas.; has 235 acres land 1½ mi. from Cumberland; considering improvements; Henry W. Schaidt, Engr. (Lately noted inctpd., capital \$25,000.)

N. C., Charlotte.—Stephens Co. has let contracts for swimming pool 40x30 ft., 3 tennis courts, 9-hole golf course and children's playgrounds in Myers Park.

N. C., Greensboro.—American Land Co., capital \$100,000, inctpd. by Geo. T. Penny, J. C. Penny and others.

S. C., Charleston.—Prospect Farms Co., capital \$50,000, inctpd. by C. B. Jenkins, Prest.; M. B. Barkley, V.-P.; J. T. Jenkins, Secy.; C. B. Jenkins, Jr., Treas.

Tex., Brownsville.—Riverside Development Co., capital \$25,000, inctpd. by W. H. Mason, Jr., J. A. Russell and C. E. Butler.

Tex., Sherman.—City, T. W. Cole, Mayor, voted \$50,000 bonds for park and auditorium.

Va., Dendron.—Burwells Bay Corp., capital \$15,000, chartered; J. D. Emory, Prest.; W. S. Barrett, Secy.

Va., Norfolk.—Camden Development Co., capital \$100,000, inctpd. by W. W. Starke, Prest., Norfolk; D. O. Newberry, Secy.-Treas., Columbia, N. C.

LUMBER MANUFACTURING

Ala., Knoxville.—Black Warrior Lumber Co., U. J. Matson, Ithaca, N. Y., Prest., and E. S. Ovalite, Mgr., lately noted as letting kiln contract, will erect 40x104-ft. \$6000 fireproof building; daily capacity of plant 30,000; ft. pine lumber.

Ky., Bowling Green.—E. L. Hambrick Lumber Co., capital \$35,000, inctpd. by E. L. Hambrick, H. Shattuck, V. E. Porters, J. T. Vance and J. J. Sledge.

Miss., Ellisville.—Hardwood Mfg. Co., capital \$3000, inctpd. by J. R. Caldwell, D. D. Jordan and others.

Miss., Hattiesburg.—Winston Lumber Co., capital \$15,000, inctpd. by H. E. Allen, W. E. Herren and others.

N. C., Lenoir.—Rex Lumber Co., capital \$25,000, inctpd. by E. C. Dale, F. C. Hooker, B. F. Martin and L. R. Munday.

Okl., Miami.—Mineral Belt Lumber Co., capital \$5000, inctpd. by C. A. Ackley, H. F. Myers and Lillie Ackley.

S. C., Mullins.—Pee Dee Land & Timber Co., capital \$5000, inctpd.; H. B. Smith, Prest.; T. E. Cooper, V.-P.; W. M. McIntyre, Secy.; G. A. Johnson, Treas.

Tex., Ore City.—Southern Dimension Oak Co. organized; A. M. Kirkland, Prest.-Mgr.; F. D. Field, V.-P.; H. A. Williams, Secy.; install mill machinery; daily capacity 1 to 2 cars wagon woods. (Lately noted inctpd., capital \$6000.)

Tex., Temple.—South Side Lumber Co., capital \$10,000, inctpd. by W. I. McReynolds, A. I. Commack, Ralph Blair and others, all of Waco, Tex.

Tex., Victoria.—B. F. Williams Lumber Co., capital \$10,000, inctpd. by Ben F. Williams, August La Sage and Mrs. Nora B. Williams.

Tex., Wichita Falls.—C. M. Miller Lumber Co., capital \$16,000, inctpd. by C. M. Miller, J. A. Richolt, C. R. Taylor and others.

Va., Putnam.—White Oak Lumber Co., Coa Grove, O., acquired property of Honaker Lumber Co., including 3 band mills, 25 mi. standard-gauge railroad with equipment and 50,000 acres hardwood stumpage.

W. Va., Huntington.—Franz Coal & Lumber Co., capital \$500,000, inctpd. by W. E. Deegans, O. J. Deegans, John Faulkner, L. N. Franz and others.

METAL-WORKING PLANTS

Ky., Paducah.—Fly Traps.—Curry Champion Fly Trap Co., capital \$90,000, inctpd. with H. R. Lindsey, Prest.; S. D. Dalbey, V.-P. and Treas.; H. M. Jeppesen, Secy.; secured building on Jefferson St.; install machinery to manufacture 22-in. galvanized sheet-iron and wire fly traps; initial daily capacity 300; ordered equipment.

Md., Baltimore.—Tin and Enamel Ware.—National Enameling & Stamping Co., Wm. H. Matthal, Mgr. Baltimore Branch, 1901-1919 Light St., has plans for additional building; brick and steel; 4 stories; local bidders invited to estimate.

Md., Baltimore.—Gas Meters.—Maryland Meter Co., Edmund S. Dickey, Mgr., Guilford Ave. and Saratoga St., has plans for addition to plant; 6 stories; 52x94 ft.; following invited to estimate: Price Concrete Construction Co., Maryland Trust Bldg.; West Construction Co., American Bldg.; Cogswell-Koether Co., 406 Park Ave.; Gladfelder & Chambers, 36th St. and Roland Ave.; Chas. L. Stockhausen Co., Marine National Bank Bldg.; Willard E. Harn Co., 213 N. Calvert St.; Consolidated Engineering Co., Calvert Bldg., all of Baltimore.

Md., Havre de Grace.—Metal Tiles.—Company (name not announced) lately noted to locate metal tile plant and as engaging Thornton W. Price, Woolworth Bldg., New York, as Archt.-Engr.; will erect 70x600 ft. and 60x350 ft. buildings; A. F. Brown, Prest.-Mgr.; S. A. Williams, V.-P.; C. C. Foreman, Secy.

N. C., Salisbury.—Dan Metal Co., capital \$100,000, inctpd. by J. P. Sanders, W. E. Hackett, J. F. Somers and others.

Va., Norfolk.—Silverware.—Royal Silver Mfg. Co. increased capital \$25,000 to \$50,000.

MINING

Ala., Hanover.—Graphite.—W. R. Thompson of Jacksonville, Fla., purchased 800 acres graphite land for \$32,000 and will develop.

Ark., Olvey.—Qualls Mining Co., capital \$1000, inctpd.; Dan Hale, Prest.; John T. Fuller, V.-P. and Gen. Mgr.; John J. Hale, Secy.; F. E. Patrick, Treas.

Ark., Olvey.—Qualls Mining Co., capital \$1000, inctpd. by Dan Hale, John J. Hale, J. H. Walker and others.

Ark., Sylamore.—Zinc.—Bald Eagle Mining Co., capital \$30,000, inctpd. by J. H. Keppler and others; will develop zinc mine; contemplates building mill.

Fla., Bloomingdale.—Phosphate.—American Phosphate Mining Co. (controlled by American Agricultural Chemical Co., 2 Rector St., New York, plans phosphate developments in connection with \$1,000,000 phosphate terminals to be built near Tampa by Export Ry. Co. and acid phosphate and fertilizer factory to be built near Tampa by American Agricultural Chemical Co.; advises Manufacturers Record: Not yet ready to state details. (See Fertilizer Factories and Miscellaneous Construction.)

Ky., Smithland.—Fluorspar.—North American Fluorspar & Lead Corp. will install ad-

ditional machinery; purchased this new equipment; increase daily output to 150 tons.

La., Anse La Butte.—Salt.—Benners Salt Co., Ltd., completed organization to develop salt deposits; arranging to install plant and machinery with annual capacity 250,000 tons; states that borings show salt 150 feet below surface, and that drills through 363 feet of pure rock salt are still in salt; estimates deposits at more than 500,000,000 tons; Harry A. Benners, Prest., P. O. Box 836, New Orleans; Gabe S. Wegener, Secy., Chicago; Jas. L. Nelson, Treas., St. Louis. (Lately noted.)

La., Lafayette.—Salt.—Anse La Butte Salt Mining Co. item noted last week was erroneous; Benners Salt Co. undertakes this development; this Benners enterprise mentioned Mch. 15 and 22 under Anse La Butte.

Mo., Wentworth.—Lead and Zinc.—Georgette Mining Co. organized; Robt. Richardson, Granby, Mo., Prest.; Robt. McReynolds, Pierce City, Mo., Secy.-Treas.; O. B. Henry, Mgr.; develop 220 acres; daily capacity 20 tons. (Under Pierce City, lately noted inctpd., capital \$100,000.)

Okl., Century.—B. L. & G. Co. will build concentrating plant; purchased portion of machinery, including compressor and engines.

Okl., Commerce.—Ajax Mining & Development Co., capital \$3000, inctpd. by J. J. McCarthy and R. N. Johnson of Commerce, and K. C. Willis of Miami, Okla.

Okl., Miami.—Lead and Zinc.—Lebanon Lead & Zinc Co., capital \$15,000, inctpd. by E. A. Vernon of Tulsa, S. S. Casey and Chas. Vernon of Lebanon, Mo.

Okl., Tar River.—Zinc.—S. Y. Ramage and others of Oil City, Pa., leased 20 acres mining land and contemplate building concentrating plant.

Okl., Tulsa.—Lead and Zinc.—Acme Lead & Zinc Co., capital \$100,000, inctpd. by A. J. Rudd, C. C. Cole and J. R. Cole, Jr.

Tenn., Mascot.—Zinc.—American Zinc Co. will build \$80,000 addition to zinc mill; 1 story, 200x100-ft. brick structure with reinforced concrete floor and foundation; is addition to table-room; will have 90 tables.

Tex., El Paso.—Silver.—Tama Silver Co., capital \$100,000, inctpd. by Julius Caesar Carrera and Chas. S. Simpson of El Paso and Wm. H. Beard of Mobile, Ala.

Va., Clifton Forge.—Iron.—Virginia-Tennessee Iron Corp., C. F. Sentz, Prest., purchased 3400 to 4000 acres iron ore land; mainly in Carter County, Tenn.; plans development. (In Jan. noted inctpd. with \$850,000 capitalization.)

W. Va., Martinsburg.—Limestone.—Martinsburg Limestone Co., capital \$200,000, inctpd. by Stuart W. Walker of Martinsburg, Clarence L. Peaslee and W. W. Jackson of Williamsport, Pa., and others.

MISCELLANEOUS CONSTRUCTION

Fla., Tampa.—Phosphate Terminals, etc.—Export Ry. Co. (at annual meeting) re-elected H. L. Pierce, Prest.; T. W. Parsons (V.-P. and Gen. Mgr. of Charlotte Harbor & Northern Ry.), V.-P.; N. P. Webber (re-elected), Secy.-Treas.; ratified plans for building \$1,000,000 phosphate terminals, to include elevators and for construction of acid-phosphate plant (annual capacity 200,000 tons) and fertilizer factory by American Agricultural Chemical Co., 2 Rector St., New York; terminal site is on eastern shore of Hillsborough Bay, Hillsborough county, 6 mi. south of South Tampa; terminal improvements will include dredging channel from property to main 24-ft. channel, ship basin requiring dredging exceeding 1,000,000 yards, utilization of this dredge material for constructing 2000 ft. of land into bay, constructing and equipping phosphate elevators, building 15 mi. standard-gauge railway from terminals to mines of American Phosphate Mining Co. (which is controlled by American Agricultural Chemical Co.), and 6-mi. spur railway; let 15 mi. railway contract to E. W. Parker of Tampa. (Previously reported organized to build terminals.)

Md., Baltimore.—Steamship Pier.—Standard Oil Co., Pratt and Commerce Sts., plans to construct pier 1000 ft. long at foot of Second St.; replace 2 existing piers.

S. C., Charleston.—Seawall.—City let contract to Bryan & Co., Jacksonville, Fla., at \$41,585, to construct 1000-ft. concrete seawall; 25,000 cu. yds. filling dredged from river; J. H. Dingle, City Engr. (Bids noted in Feb.)

Tex., Dallas.—Levee.—Dallas County Commissioners authorized formation of Dallas County Improvement Dist. No. 2; contemplates \$108,000 bond issue for levee construction to connect with levee work now under construction in Dallas County Dist. No. 1, and Ellis County Dist. No. 3; Dist. comprises about 4500 acres.

Va., Norfolk—Seawall.—Colonial Place Corp. will construct 4500-ft. concrete seawall; estimated cost \$27,000; bids in; contract not let; John M. Baldwin, 118 Brooke Ave., Norfolk, Engr.

MISCELLANEOUS ENTERPRISES

Ala., Birmingham—Cleaning and Dyeing.—Towles Cleaning & Dyeing Co., capital \$2000, inctpd.; J. G. Towles, Pres.; T. P. Bowles, V.-P.; A. M. Willis, Secy.-Treas.

Ala., Elba—Hardware.—Edwards Hardware Co., capital \$9000, inctpd. by J. C. Edwards, W. W. Ham, Jr., and L. C. Powell.

D. C., Washington—Laundry.—Treasury Dept. Supv. Archt.'s office, received bids until April 16 for new roof and repairs to laundry building, Bureau Engraving and Printing; copies of specifications and drawings, Nos. 100-B, 400-B, and 401-B, obtainable at discretion.

Ky., Lexington—Tobacco Stemming.—Liggett & Myers Tobacco Co. contemplates installing tobacco stemming.

Md., Baltimore—Ventilators.—Richard's Ventilator Co., 440 Equitable Bldg., inctpd. with \$100,000 capital by John Frank Kios, Leo A. Bowes and A. Graham Boggs, Jr.

Md., Baltimore—Ferry.—Baltimore Harbor Sight-Seeing Yacht & Ferry Co., 440 Equitable Bldg., inctpd. by John Frank Kios, Leo A. Bowes and A. Graham Boggs, Jr.

Md., Baltimore—Corks.—American-Portugese Crown Cork Co., 1511 Guilford Ave., inctpd. with \$50,000 capital by John M. Hood, Jr., Walter W. Abell, Harvey Coale and others.

Miss., Hazlehurst—Water Bottling.—Brown's Wells, capital \$70,000, inctpd. by Earl Brewer, J. N. Flower, J. B. Waddill and others.

N. C., Statesville—Grain Elevator.—Sterling Mills, W. B. Brown, Mgr., will build a grain elevator, 50,000 bu. capacity. (See Flour, Feed and Meal Mills.)

Tenn., Knoxville—Police System.—City Commrs. authorized \$40,000 bond issue to install Gamewell or similar system for Police Dept.

Tex., Dallas—Publishing.—Farm Tractor Co., capital \$5000, inctpd. by Arthur Stevenson, Walter A. Stevens and J. W. Ridgway.

Tex., Houston—Navigation.—Southern Navigation Co., capital \$40,000, inctpd. by Miles Bennett and Early Deane of Houston and J. E. Josey of Beaumont.

Tex., Paris—Hardware.—Paris Hardware Co., capital \$40,000, inctpd. by F. K. Garver, O. F. Davis and Homan Starks.

Tex., San Antonio—Engineering.—Laidlaw Engineering Co., 447 Moore Bldg., lately noted inctpd., will conduct general engineering and designing; J. H. Grover, Pres.; Jas. Donaldson, V.-P.; R. A. Laidlaw, Secy.

Tex., Tyler—Publishing.—Tribune Publishing Co., capital \$2500, inctpd. by L. M. Green, E. P. Price and T. C. Green.

W. Va., Bethany—Printing.—Bethany Printing Co., capital \$5000, inctpd. by T. E. Cramblett, G. O. Doak, Z. A. C. Doak and others.

W. Va., Charleston—Taxicabs.—Charleston Taxicab Co., capital \$10,000, inctpd. by Conner H. Craig, Leslie C. Hamilton, J. Otis Radner and others.

W. Va., Huntington—Laundry.—Tri-State Laundry Co., organized with John B. Condon, Pres.; W. A. Miles, V.-P.; Morris Bailey, Secy.; M. Biederman, Treas.; purchased Home Laundry; will install equipment. (Lately noted inctpd. with \$50,000 capital.)

MISCELLANEOUS FACTORIES

Ala., Birmingham—Toilet Articles.—Boyd Mfg. Co. increased capital from \$3000 to \$10,000.

Ala., Birmingham—Peanut Butter Products.—Jo-Pe-Nut Products Co., 2323 Third Ave., M. L. Falk, Pres.-Mgr., will manufacture peanut butter products. (Lately noted inctpd., capital \$2500.)

Ark., Pocahontas—Buttons.—Ben D. Bolt of Newport, Ark., is reported to establish button factory.

Ark., Pocahontas—Buttons.—Des Moines Button Works, Des Moines, Ia., is reported to build button factory.

Fla., Jacksonville—Overalls.—R. A. Palmer of Opelika, Ala., contemplates establishing overall factory.

Fla., Ocala—Peanut Products.—Marion Products Co. organized with J. M. Meffert, Pres.; A. A. Winer, V.-P.; L. M. Murray, Secy.; J. J. Gerig, Treas.; manufacture peanut butter, etc.

Fla., Pensacola—Dyes.—Blumer Dye Co., capital \$10,000, inctpd. with Wm. Blumer, Pres.; T. L. Grant, V.-P. and Gen. Mgr.; Geo. Earl Hoffman, Secy.-Treas.

Fla., Tampa—Shipbuilding.—Tampa Shipbuilding & Engineering Co., Ernest Kreher, Pres., advises Manufacturers Record: Let contract to Geo. A. Miller, Tampa, for erecting 2-story 250x190-ft. shop building and other structures; cost \$60,000; will let contracts for other similar items from time to time. (Lately noted to organize with \$500,000 capital, contemplating to build drydock and steel-foundry plant, etc.; construct steel vessels, dredges and phosphate-mining machinery.)

Ga., Atlanta—Sodium Hydroxide.—Geo. F. Payne, care Atlanta College of Pharmacy, 253 Courtland St., contemplates erection of plant to manufacture sodium hydroxide; daily capacity 5 to 10 tons.

Ga., Atlanta—Bakery.—Atlanta Baking Co., Morris Srochi, Pres.-Mgr., 83 Mangum St., will erect 76x250-ft. mill-construction building; 2 stories and basement; cost \$36,000; plans by Fritz Wagener, Fourth National Bank Bldg., Atlanta; Aiken & Parr, Contrs.; machinery cost \$30,000; products—bread, cakes and pies.

Ky., Louisville—Boiler Compound.—Wade Mfg. Co., capital \$10,000, inctpd. by John Manly, A. S. Newhall and Fred Diefenbach.

Ky., Louisville—Chemicals.—James & Becker, capital \$6000, inctpd. by W. E. James, A. M. Becker and Thos. Edwards.

Ky., Paducah—Buttons.—Iowa Pearl Button Co., Muscatine, Ia., contemplates establishment of plant; initial installation 25 saws.

Miss., Laurel—Creamery.—City Ice & Coal Co., J. G. Repsher, Mgr., will install lately noted creamery; erect 36x80-ft. building; date of opening machinery bids not set; estimated capacity 1000 lbs. butter daily. (See Machinery Wanted—Creamery Machinery.)

Ky., Louisville—Remedies.—Westerman Remedies Co., 1534 Christy Ave., lately noted increasing capital from \$5000 to \$10,000, will install small rendering and agitating machines; manufactures pine tar salve, liniment, etc. (See Machinery Wanted—Advertising Novelties, etc.)

La., Shreveport—Mattresses.—Shreveport Mattress Co., capital \$10,000, inctpd. with F. E. Russ (Pres. Kidd-Russ Trunk & Bag Co.), Pres.; Glenn F. Russ, V.-P.; John O. Gibson, Secy.-Treas.

Miss., Hattiesburg—Creamery.—Hattiesburg Creamery & Produce Co., capital \$10,000, inctpd. by G. M. McWilliams, C. Z. Stevens and others.

N. C., Benson—Building Supplies.—Star Mfg. Co., capital \$50,000, inctpd. by Myrtle I. Smith, R. F. Smith and R. D. Langdon.

N. C., Gastonia—Bakery.—W. E. Todd will equip as bakery 2-story building to be erected by J. B. Beal.

N. C., Kittrell—Paper.—R. V. Barnes will establish paper mill. (See Machinery Wanted—Paper Machinery.)

N. C., Leaksville—Bottling.—Coca Cola Bottling Co. of Danville, Va., will install bottling works; has building.

Okla., Muskogee—Candy.—Muskogee Wholesale Grocer Co. will install machinery to double capacity of candy plant; purchased machinery costing \$10,000; now erecting building.

Okla., Watts—Lime.—Rogers White Lime Co., Rogers, Ark., will build kilns.

S. C., Columbia—Brooms and Brushes.—Columbia Broom & Brush Co. (offices with Nelson & Gettys, 904 Palmetto Bank Bldg.) inctpd. with \$3000 capital by W. M. Shannon and B. F. Dilbeck; establish plant with initial daily output 25 doz. brooms and brushes; has purchased machinery.

Tenn., Bristol—Cleanser.—Reynolds Corp. increased capital from \$400,000 to \$1,000,000; contemplates erection 2 or 3 additional plants.

Tenn., Chattanooga—Paper, etc.—O. B. Andrews Co. increased capital from \$325,000 to \$500,000 and merged with Acme Mfg. Co.; build addition to folding paper-box factory; investigating practicability of establishing mill to manufacture paper for boxes.

Tenn., Memphis—Memphis Mfg. Co., capital \$25,000, inctpd. by H. W. Hetzler, Galvin Hudson, C. L. Fuller and others.

Tenn., Sweetwater—Barium Sulphide.—Durex Chemical Corp., 330 Fifth Ave., New York, advises Manufacturers Record: Too early to report our plans for rebuilding; plant No. 3, now in process of construction, has been immediately altered to reinforced concrete and steel, so that it will be absolutely fireproof; hope to have No. 3 in operation in 90 days; manufacture barium sulphide. (Portion of plant lately burned.)

Tex., Clarksville—Mattresses.—Ezyroll Mattress Co., capital \$10,000, inctpd. by F. H. Anderson, Elmore McClinton, J. M. Butler and others.

Tex., Dallas—Hooser Mfg. Co., capital \$1000, inctpd. by John W. Hooser, E. L. Worley, Chas. L. Martin and others.

Va., Harrisonburg—Overalls, etc.—Wise Bros., Inc., 122 W. Fayette St., Baltimore, leased building on East Water St. and will equip to manufacture overalls, etc.; initial expenditure for equipment \$15,000.

Va., Lynchburg—Candy.—Atlas Candy Co., capital \$25,000, inctpd. with P. C. Nowlin, Pres.-Treas.; E. F. Eberlein, V.-P. and Gen. Mgr.; Chas. MacLeod, Secy.; acquires plant formerly operated by Lynchburg Candy Works; plant fully equipped.

Va., Lynchburg—Box Board and Pulp.—E. N. Newman is promoting organization of company to erect 50-ton box board mill and 50-ton pulp mill.

Va., Luray—Creamery, etc.—Luray Ice Co. let contract to Mims, Speake & Co., Luray, to build lately noted creamery and cold-storage plant.

Va., Newport News—Shipbuilding.—Newport News Shipbuilding & Dry Dock Co., Homer L. Ferguson, Pres. and Gen. Mgr., now planning extensions; president's assistant advises Manufacturers Record: Recently authorized improvements approximating \$850,000; this appropriation covers changes in present buildings, erection of additional structures, purchase of new machinery, yard improvements, etc., executed under direction of this office; G. L. Smith, Engr. in charge of building details; H. P. Phelps, plant Engr., in charge of machinery and other equipment. (Noted in Dec. as wiring Manufacturers Record of plan to expend \$850,000, etc.)

Va., Portsmouth—Wrapping Paper.—Southern Fibre Co., Belt Line R. R. and Paradise Creek, will enlarge plant.

Va., Roanoke—Chemicals.—Columbia Chemical Corp., capital \$500,000, chartered; H. B. Goodloe, Pres.; S. W. Hairston, Secy.

Va., Rosslyn—Moth Bags.—Standard Moth Bag Co. changed name to Clogard Wardrobe Co. and increased capital from \$30,000 to \$75,000.

Va., Suffolk—Acme Mfg. Corp., capital \$5000, inctpd.; W. J. Green, Pres.; M. J. Parentau, Secy.

W. Va., Clarksburg—Soap.—E. W. Fry, 425 W. Main St., states that plans are nearing completion for establishment of soap factory; Mr. Fry to be Gen. Mgr. (Lately noted, with prices wanted on machinery.)

W. Va., Durbin—Tannery.—Pocahontas Tanning Co., Wheeling, W. Va., and J. W. Goodsell, Mgr., will rebuild structures lately noted burned; Contr., Nicola Building Co., Pittsburgh, Pa.; has purchased machinery; manufactures sole leather; daily capacity 1400 sides.

W. Va., Huntington—Violins.—Huntington Violin Co., capital \$300,000, inctpd. by J. Wm. Hoggan, Jr., N. M. Hill, M. M. Bothwell and others.

W. Va., Northfork—Bakery.—White House Baking & Confectionery Co., capital \$20,000, inctpd. by Chas. K. Wagner and Manuel B. Wagner of Kimball, W. Va.; Oscar Bohn of Welch, W. Va., and others.

MOTOR CARS, GARAGES, TIRES, ETC.

Ark., Benton—Garage.—Ford Auto Co. will occupy garage to be erected by Geo. Hughes; structure will be brick, 50x150 ft.

Ky., Central City—Garage.—J. W. Blackburn & Sons will erect lately noted garage; 40x80 ft.; cost \$5000; brick and concrete; will open bids; install complete garage equipment.

La., Shreveport—Garage.—Bernstein Bros. let sub-contracts on garage lately noted to be erected after plans by J. P. Annan, Shreveport; 100x125 ft., 1-story and mezzanine; cost \$30,000.

Md., Baltimore—Garage.—Fred Kahl will erect garage on Calhoun St., south of Cumberland; 1 story; 62.6x135 ft.; plans by Stanislaus Russell, 2900 Clifton Ave., Baltimore.

Md., Baltimore—Garage.—Monumental Motor Car Co., Mt. Royal and Maryland Aves., will erect garage on Morton St. between Mt. Royal Ave. and Preston St.; brick; 40x80 ft.; plans by Smith & May, Architects, 1133 Calvert Bldg., Baltimore; following contractors will submit estimates: David M. Andrew Co., Mt. Vernon Ave. and 26th St.; Fred Decker & Son, 1213 E. Biddle St.; Consolidated Engineering Co., Calvert Bldg.; R. B.

Mason, 308 W. Madison St.; Clarence E. Stubbs, Equitable Bldg.; all of Baltimore.

N. C., Albemarle—Garage.—N. G. Arey of Richfield, N. C., will erect garage at Five Points; concrete foundation; brick.

Okla., Oklahoma City—Automobiles.—Star Motors Co., capital \$50,000, inctpd. by U. B. Dunklin, M. R. Arnett and Mrs. H. R. Dunklin.

Okla., Oklahoma City—Garage.—Carhart Automobile Co. will occupy garage to be erected at 701-705 N. Broadway by Campbell & Price, Contrs.; structure will be 2 stories; brick and concrete; 21,600 sq. ft. floor space; cost \$30,000.

Tenn., Knoxville—Fire Department Automobiles.—City Commrs. authorized \$60,000 bond issue to motorize fire department, extend fire-alarm system, etc. Edward Haynes, Fire Chief.

Tenn., Memphis—Garage.—W. E. Graves let contract to A. B. Lanning, 601 Tennessee Trust Bldg., Memphis, to erect lately noted garage, after plans by W. E. Boone; 50x150-ft. brick building with gravel roof; cost \$7000.

Tex., Alto—Automobiles.—East Texas Overland Co., capital \$1000, inctpd. by H. H. Berryman, F. F. Florence and J. E. Watters.

Tex., Fort Arthur—Garage.—Linn Garage, T. E. Linn, owner, will erect 100x140-ft., 2-story building, cost about \$20,000; install machinery, cost \$1400. (Lately noted as "Ford Motor Co. T. E. Linn, local representative.")

Va., Alexandria—Automobiles.—Wenner Motor Sales Co., capital \$15,000, inctpd.; Wm. A. Wenner, Pres., Lovettsville, Va.; Willis D. Peck, Secy., Washington, D. C.

Va., Portsmouth—Garage.—S. C. Pace will erect garage; 2 stories; cost \$11,200.

Va., Richmond—Garage.—Murphy's Hotel, Inc., will erect addition to hotel garage; cost \$9000; add one story to two-story fireproof building; plans by Carl Ruchlmann, 5th and Main Sts.; Jas. T. Disney, Richmond, Constr. Engr.

W. Va., Huntington—Automobile Service. Auto Electric Service Co., capital \$5000, inctpd. by C. H. Doebler, Sr., F. W. Irvin, S. W. Lallance and others.

W. Va., Princeton—Automobiles.—National Motor Co., capital \$25,000, inctpd. by J. D. Rogers, A. G. Huston, Lowe Groah and others.

RAILWAY SHOPS, TERMINALS, ROUNDHOUSE, ETC.

Fla., Tampa.—Export Ry. Co., H. L. Pierce, Pres., will build \$1,000,000 phosphate terminals; improvements to include dredging, constructing elevators, building railway, etc. (See Miscellaneous Construction.)

S. C., Anderson—Blue Ridge Ry., J. R. Anderson, Supt., will rebuild roundhouse and shops lately noted burned at total loss of \$25,000; new structures of brick.

ROAD AND STREET WORK

Ala., Attalla.—City votes April 12 on \$11,000 bonds for streets and schools. Address The Mayor.

Ala., Florence.—Lauderdale County Commissioners let contract Stanley & Singer Construction Co. of Lafayette, Ala., to grade and surface with gravel 2 mi. of Jackson Highway, between Florence and St. Florin; also to R. C. Smith of Oakland, Ala., to sub-grade and surface 3 mi. of Florence and Waterloo road west of Oakland; W. S. Keller, State Highway Engr., Montgomery. (Lately noted inviting bids.)

Ala., Gadsden.—Etowah County Commrs. will have preliminary estimates made by S. J. Cumming, County Engr., for hard surfacing Hokes Bluff Rd., from Attalla as far as \$30,000 expenditure will permit.

Ark., Magnolia.—City will construct concrete sidewalks on principal streets. Address The Mayor.

Ala., Roanoke.—City, J. P. Liles, Mayor, let contract to Geo. White (with Clay Mfg. Co.) to construct 10,000 to 20,000 sq. yds. brick paving; \$30,000 available; W. A. Pittman, Roanoke, Engr. (Bids noted in Feb.)

Fla., Bartow.—Polk County, Lake Hamilton Rd. and Bridge Dist., voted \$40,000 bonds to construct roads. Address County Commrs. (Lately noted.)

Fla., Inverness.—City contemplates hard surfacing streets and paving sidewalks. Address The Mayor.

Fla., Jacksonville.—City, L. D. Smoot, Commr. Public Works, let contract to Atlantic Bitulithic Co., Richmond, Va., to construct 30,196 sq. yds. bitulithic pavement, 6-in. concrete base.

Fla., Marianna.—City, W. E. B. Smith, Mayor, contemplates paving 3 blocks each on Fayette and Caledonia Sts.; pavement 100 ft. wide; bids to be asked.

Fla., Quincy.—City will expend \$50,000 to \$75,000 to construct paving; J. B. McCrary Co., Atlanta, Ga., Engr.; work ready for bids in about 90 days.

Fla., Tampa.—Hillsborough County Commissioners, W. P. Culbreath, Clerk, ask bids for April 9 to construct 54 mi. hard-surface roads, to complete present brick roads to County line, to counties of Pasco, Polk, Manatee and Pinellas. (Lately noted.) (See Machinery Wanted—Road Construction.)

Ga., Dalton.—City, W. E. Wood, Mayor, will construct asphalt, concrete or lug-cut brick paving; 5900 ft. street; cost about \$30,000; bids were opened March 9; none accepted; bids reconsidered March 19; J. B. McCrary Co., Atlanta, Ga., Engr.; city also contemplates construction 10 mi. cement sidewalks.

Ga., Marietta.—City, V. B. Waddell, City Clerk, will improve streets and sidewalks around public square and intersecting streets; bids until April 5; asphalt, concrete, vitrified brick or other roadway paving material; Knox T. Thomas, Const. Engr., Forsyth Bldg., Atlanta, Ga., noted in Feb. (See Machinery Wanted—Paving.)

Ga., Tallapoosa.—City contemplates hard surfacing streets with stone or slag. Address The Mayor.

Ga., Thomasville.—City will construct paving and street improvements, cost \$200,000; ready for bids in about 90 days; J. B. McCrary Co., Atlanta, Ga., Engr. (Lately noted contemplating bond issue.)

Ky., Barbourville.—Knox County Fiscal Court, Read P. Black, Clerk, asks bids until April 3 for macadam construction from Corbin to Bell county line; also 3 miles to Whitley county line, and 3 miles each on Big Richland Road, Williamsburg Road, Fighting Creek Road, with 2 miles on Bell county road, near Flat Lick; C. B. Parrott, Chief Engr., Barbourville. (See Machinery Wanted—Road Construction.)

Ky., Barbourville.—T. J. Vermillion & Son, Barbourville, will sublet 60,000 yards of grade work in Knox county, on State Highway. (See Machinery Wanted—Road Grading.)

Ky., Hazard.—Perry county votes Apr. 5 on \$150,000 bonds to construct roads. Address County Commrs. (Lately noted as contemplated.)

Ky., Russellville.—Logan County Commrs. let contract F. C. Carrell of Russellville at \$35,000 to construct road from Russellville to Lewisburg, 7 mi., and Geo. H. Byars at \$5000 for 2½ mi. from Russellville to Franklin Pike.

La., Colfax.—Grant Parish, W. A. Brownlee, Prest. Police Jury, voted \$150,000 bonds for road construction, Dist. No. 8. (Noted in Dec.)

La., Lafayette.—Lafayette Parish voted \$300,000 bond issue to construct and maintain gravel roads; plans to construct 50 mi. gravel roads first and then local roads in wards under supervision of ward committees. Address Police Jury. (Noted in Feb.)

Md., Baltimore.—City let contracts American Paving & Contracting Co., Montebello Ave. and Jenkins lane, Baltimore, and Baltimore Asphalt Block & Tile Co., Monroe and Lorman Sts., Baltimore, to pave 16 streets in northeastern annex and 15 in northwestern annex with asphalt. (Lately invited bids.)

Md., Baltimore.—City let contracts American Paving & Contracting Co., Montebello Ave. and Jenkins Lane, Baltimore, and Baltimore Asphalt Block & Tile Co., Monroe and Lorman Sts., Baltimore, to pave 16 streets in northeastern annex and 15 in northwestern annex with asphalt; American Paving & Contracting Co.'s contract calls for asphalt street paving, amount \$253,000; Baltimore Asphalt Block & Tile Co.'s contract comprises 35,000 sq. yds. sheet asphalt paving, 3400 sq. yds. vitrified brick, 25,000 cu. yds. grading, 20,000 lin. ft. concrete curb; F. W. McKinney, Chief Engr., Annex Improvement Com.

Md., Baltimore.—City will grade, curb and pave various streets included in Contracts Nos. 152 and 153; Contract No. 152 calls for 32,000 sq. yds. sheet asphalt paving; 20,200 lin. ft. armored concrete curb and circles in place; 20,000 cu. yds. grading; Contract No. 153 calls for 16,200 sq. yds. sheet asphalt paving; 9000 lin. ft. armored concrete curb and circles in place; 3400 sq. yds. Hillside brick for paving in railway area; 6700 cu. yds. grading; bids until March 28; John H. Robinette, Prest. Commrs. for Opening Streets. (See Machinery Wanted—Paving.)

Md., Federalsburg.—City contemplates \$10,000 bond issue to improve streets. Address The Mayor.

Md., Prince Frederick.—State Roads Com., 601 Garrett Bldg., invites bids until Mch. 27 for maintaining sections of State highways in Calvert county from Owings Station to Solomon's Island, 35.5 mi. Lately incorrectly noted as "to construct." (See Machinery Wanted—Road Maintenance.)

Miss., Hattiesburg.—Forrest County, R. M. Hendrix, Prest. Board of Supervisors, asks bids until May 7 to construct gravel roads; \$130,000 available; Frank T. Myers, Engr.; J. K. Denham, Road Commr. (See Machinery Wanted—Road Construction.)

Miss., Iuka.—Tishomingo County Commrs., E. F. Parnell, Secy., let contract to H. D. Harvey & Co., Tupelo, Miss., to construct 6 mi. gravel roads, 1st Dist.; \$12,000 available; Engr., W. L. Murphey, Corinth, Miss. (Bids noted in Feb.)

Miss., Liberty.—Amite County, Fourth Supervisors Dist., voted \$50,000 bonds to construct gravel roads. Address County Commissioners.

Miss., Meridian.—Lauderdale county, Dist. No. 1, will scarify, reshape, spread new material, sprinkle and roll Causeville Road, about 45,000 sq. yds.; Good Roads Commission of Dist. No. 1, J. O. Weiss, Secretary, invites bids until April 4; also to unload from cars and haul to Causeville Road (average haul 3 miles) chert or novaculite, about 4000 tons; J. T. Pinkston, Engr. (See Machinery Wanted—Road Construction.)

Mo., Kansas City.—City let contract Fred Lorimer at \$20,500 to grade and pave Brookside Blvd., from 48th to 52d Sts.

N. C., Burlington.—City, J. E. Moore, Mayor, rejected bids for asphalt street paving estimated to cost about \$100,000; E. C. Derby, City Engr. (Bids lately noted for March 2.)

N. C., Canton.—City let contract Asheville Dray, Fuel & Construction Co. of Asheville to pave 20,000 sq. yds. of streets with concrete; concrete curbing; Chas. H. Neal, Engr., Asheville. (Lately noted inviting bids.)

N. C., Clinton.—City contemplates paving streets. Address The Mayor.

N. C., Dunn.—City issued \$100,000 bonds to improve streets. Address The Mayor.

N. C., Marion.—City will pave streets with asphalt; engaged R. L. Greenlee, Engr., to supervise improvements; issue \$40,000 bonds.

N. C., Rocky Mount.—City, R. R. Gray in charge, let contract to R. G. Lassiter & Co., Oxford, N. C., to construct bitulithic pavement; \$50,000 available; Engr., J. J. Wells, Rocky Mount. (Bids noted in Feb.)

N. C., Smithfield.—City, J. W. Stephenson, Mayor, asks bids until April 6 for street improvements; 15,000 sq. yds. asphalt, bitulithic or other pavement; 3000 lin. ft. granite curb; 8000 ft. concrete gutter; 3000 sq. yds. sidewalk, etc.; Engr., Gilbert C. White, Durham, N. C. (See Machinery Wanted—Paving.)

N. C., Troy.—Montgomery County, Troy Township, defeated \$30,000 bonds to construct roads. (Lately noted.)

N. C., Yadkinville.—Yadkin County Commissioners, E. C. Mayberry, Secy., will construct road from Donahua to sand clay road near Jonesville, and from Crutchfield to Courtney; bids until April 3. (See Machinery Wanted—Road Construction.)

Okla., Okemah.—Okfuskee County, J. W. Butler, Chrmn. County Commrs., voted following bonds for road improvements: Paden Township \$40,000; Castle Township \$10,000; Okemah Township \$26,000; Lincoln Township \$13,000; total \$99,000.

Okla., Tishomingo.—Johnston County, Harris township, voted \$14,000 bonds for road construction. Address County Commrs. (Lately noted.)

Okla., Tishomingo.—Johnston County, Garrett township, voted \$28,500 bonds for road improvements. Address County Commrs. (Lately noted.)

S. C., Anderson.—City will receive bids within 30 days on lately-noted paving; J. B. McCrary Co., Engr., Atlanta, Ga., states cost at \$250,000.

S. C., Beaufort.—City voted bonds for street improvements; probably use concrete. Address The Mayor.

S. C., Charleston.—City let contract Bryan & Co., Jacksonville, Fla., at \$41,585 to construct roadway around South Battery, connecting with Boulevard. Jas. H. Dingle, City Engr.

S. C., Fort Mill.—City will pave additional streets and repair bitulithic on Trade St. Address The Mayor.

S. C., Gaffney.—Cherokee County voted \$225,000 bonds to construct roads. Address County Commrs., W. C. Hamrick, Gaffney, Chrmn. (Lately noted.)

Tenn., Cleveland.—City will pave sections of Inman, Ocoee, Church and other streets; contemplates \$25,000 bond issue; G. L. Hardwick and others, Paving Com.

Tenn., Greeneville.—Greene County Commissioners ordered vote Mch. 31 on \$510,000 bonds to grade and macadamize additional highways.

Tenn., Jonesboro.—Washington County voted \$750,000 to construct and improve about 250 mi. road; macadam, with perhaps some concrete, and macadam with asphalt oil dressing; Engr. not selected; W. J. Barton, Johnson City, Tenn.; E. J. Baxter, Jonesboro and others, Commrs. (This amount lately noted; also noted additional \$500,000 bonds to be voted Apr. 17 for grading and macadamizing roads.)

Tenn., Manchester.—Coffee County defeated bonds for road construction. (Noted in Jan.)

Tenn., Maynardville.—Union County Commissioners will issue \$40,000 to \$50,000 warrants for additional road improvements.

Tex., Caldwell.—Burleson County Commrs. let contract Dawson & Woodward of San Antonio at \$12,500 for additional road grading and surfacing. (Noted in Feb.)

Tex., Edna.—Jackson County, W. R. Farquhar, Lolita, Tex., official in charge, let contract to Davis & Kelly, Francitas, Tex., to construct roads; \$52,000 available; Mr. Brasher, Francitas, Tex., Engr. (Bids lately noted.)

Tex., Nacogdoches.—Nacogdoches County Commrs. ordered election for April 10 to vote on tax levy for road construction.

Tex., Georgetown.—Williamson County, Fourth Commrs.' Prec., votes Apr. 17 on \$500,000 bonds to construct roads. Address County Commrs.

Tex., Paris.—Lamar County votes April 28 on \$1,000,000 bonds to construct roads. Address County Commrs.

Tex., Plainview.—City, W. E. Risser, Mayor, voted \$40,000 bonds for street paving.

Tex., San Marcos.—Hays County will construct 10 mi. of gravel road from Buda to Nelderwald; bids until March 26; Wilson Puckett, Engr., Buda, Tex. (See Machinery Wanted—Road Construction.)

Tex., Snyder.—Scurry County Commissioners ordered vote for April 7 on special tax levy for road construction.

Va., Portsmouth.—Norfolk County will construct Cottage Line Rd., between Ocean View and Cottage Park Station, and Ocean View Blvd., between Lenox and Ocean View; Norfolk County Com. of Roads and Bridges, care of R. B. Preston, Engr., Room No. 401, Commercial Bldg., receives bids until April 2; G. P. Coleman, State Highway Commr., Richmond. (See Machinery Wanted—Road Construction.)

Va., Princess Anne.—Princess Anne County will construct 2.6 mi. of State-Aid sand-clay road, between Rosemont and Witch Duck Rds.; bids at County Clerk's office until March 26; G. P. Coleman, State Highway Commr., Richmond. (See Machinery Wanted Road Construction.)

W. Va., Buckhannon.—Upshur County, Buckhannon Dist., voted \$180,000 bonds for road improvements; Ernest Phillips, County Clerk. (Lately noted.)

W. Va., Ceredo.—City, E. H. Smith, Mayor, will probably open bids late in April to construct about 1 mi. pavement; brick on concrete base. (Bonds for \$33,000 noted voted in Feb.)

W. Va., Elkins.—Randolph County, Dry Fork Dist., defeated \$130,000 bonds for road improvements. (Noted in Feb.)

W. Va., Fairmont.—Marion County, Lincoln Dist., will construct 31 mi. roads and streets; bids received by County Court, A. G. Martin, Clerk, until April 27. Lately noted voting \$650,000 bonds. (See Machinery Wanted—Road and Street Construction.)

W. Va., Fairmont.—Marion County, Paw Paw Dist. (noted in Feb. as voting \$330,000 to improve roads) asks bids (received by County Court, A. G. Martin, Clerk) until April 25 to construct 22 mi. roads and streets. (See Machinery Wanted—Road and Street Construction; Paving and Road Materials.)

W. Va., Huntington.—City will grade, curb and pave sections of Second St., Sixth St., Lincoln Pl., Tenth Ave., etc.; also three 12-in. vitrified tile sewers and three 8-in. vitrified tile sewers; City Commrs. receive bids until April 2; A. B. Maupin, City Engr. (See Machinery Wanted—Paving and Sewer Construction.)

SEWER CONSTRUCTION

Fla., Inverness.—City contemplates construction of sewer system. Address The Mayor.

Ga., Madison.—City, M. F. Brooks, Mayor, let contract to Dysard Construction Co., Atlanta, Ga., at \$24,000, for sewer and water-works extension; Solomon-Norcross Co., Atlanta, Const. Engr. (Bids lately noted.)

Md., Grantsville.—City votes April 2 on bonds for sewer system and water-works. H. C. Bonig, Mayor.

Md., Hagerstown.—City will issue \$140,000 bonds for additional sewer construction. Address The Mayor. (Lately noted as contemplated.)

N. C., Shelby.—City's sewer extension contract, lately noted let to W. R. Hart (address Shelby, N. C.), at \$6205, calls for 6 and 8-in. sewer pipe; disposal plant cost, \$825. (See Machinery Wanted—Pipe (Sewer), etc.)

S. C., Fountain Inn.—City engaged John N. Ambler, Engr., Winston-Salem, N. C., to make surveys and prepare estimates of cost for sewer and water systems; lately noted as contemplating \$50,000 bond issue for sewer, water and electric-light systems. (See Water-works.)

Tex., Graham.—City will construct sewer system; engaged engineer. Address The Mayor.

Va., Galax.—City let contract R. L. Plevins of Bristol, Va., to construct sewer system. (Lately noted to have issued bonds.)

W. Va., Huntington.—City will construct Ninth St. trunk sewer; estimated cost \$75,000. E. Sehon, Mayor.

W. Va., Huntington.—City will construct three 12-in. vitrified tile sewers and three 8-in. vitrified tile sewers; City Commrs. receive bids until April 2; A. B. Maupin, City Engr. (See Road and Street Work and Machinery Wanted—Paving and Sewer Construction.)

TELEPHONE SYSTEMS

Ala., Birmingham.—American Telephone & Telegraph Co., Geo. R. Knox, Dist. Mgr., will erect exchange near 10th Ave. and 20th St.; reported estimated cost \$100,000.

Ky., Monticello.—Wayne Telephone Co., capital \$8000, incptd. by F. M. X. Rankin, N. I. Taylor and J. F. Bates.

Ky., Waynesburg.—Waynesburg & O. K. Telephone Co. incptd. by A. J. Johnson, J. A. Hays and Marian Warren.

Mo., Kansas City.—Southwestern Bell Telephone Co. will erect exchange at 11th and Oak Sts.; 14 stories; 100x126 ft.; Henry F. Hott and I. R. Timlin (company's architect) are preparing plans.

Va., Danville.—Chesapeake & Potomac Tel. Co., H. O. Eanes, local representative, will erect lately-noted telephone exchange at reported cost of \$150,000 for building and equipment; 2-story and basement Colonial style, fireproof structure; termination or plant dept. and operators quarters, metal lockers, etc., on first floor; operating room, second floor; heating plant, gasoline engine, cable vault and storage room in basement; plans by the company's archts. and engr.; wires in business section to be placed in underground tiled conduits.

TEXTILE MILLS

Ky., Paducah.—Hosiery.—Paducah Hosiery Mills, 8th and Jones Sts., will double capacity of plant; will erect 60x63-ft. building and install machinery.

La., New Orleans.—Cotton Sheeting, etc.—Maginnis Cotton Mills advise Manufacturers Record: Decided not to increase mill to extent we had anticipated; however, will install 5000 additional new spindles with accompanying opening, picking and carding machinery; now working on contracts. (Supersedes previous item regarding enlargement.)

N. C., Catawba.—Knitting Mills.—Catawba Ginning Co. may erect knitting mill. (See Flour, Feed and Meal Mills.)

N. C., Charlotte.—Damask and Towels.—Piedmont Commission Co. will establish mill to weave damask and towels; purchased 120 narrow and 12 broad looms.

N. C., Charlotte.—Hosiery.—Charlotte Knitting Co. chartered with \$125,000 capital by J. H. Cutter, Geo. B. Hiss and R. J. Walker; has 2-story 190x50-ft. building; will construct dyehouse and boiler sheds; install machinery for knitting hosiery.

N. C., Ellerbe.—Hosiery.—Ellerbe Knitting Mills (lately noted incptd.) organized; capital \$25,000; W. L. Howell, Prest.; B. B. Farlow, V.-P.; J. R. Bennett, Secy.-Treas.; erect 1-story 184x44-ft. brick-construction

mill building; cost \$7500; day labor under supervision of B. C. Crawford; install 50 or more knitting machines, etc., costing \$15,000, and 50 H. P. steam-power plant; belt drive; purchased all equipment except knitters; daily capacity 200 doz. or more pairs hosiery. (See Machinery Wanted—Knitting Machines.)

N. C., Gastonia.—Cotton Yarn.—A. M. Smyre Mfg. Co. organized; J. Lee Robinson, Pres.; J. O. White, V.-P.; Fred L. Smyre, Secy.-Treas.; R. C. Biberstein, Engr.-Archit., Charlotte. Mr. Smyre advises Manufacturers Record: Brick construction for buildings; dimensions and other details not determined; build by day labor; install 10,000 spindles, electric-power drive, etc.; daily capacity 2000 lbs. cotton yarn. (In January noted inceptd. with \$400,000 capital.)

N. C., Lexington.—Hosiery Yarns.—Erlanger Cotton Mills Co. writes to Manufacturers Record: New yarn mill under construction is addition to present plant; building will contain 5000 spindles and complementary machinery for manufacturing No. 20 single hosiery yarns; building with brick side and end walls, reinforced columns and ceiling, using steel sash; equip plant with individual electric motor drives, furnishing electricity from our own individual steam-electric power plant. (Previously noted.)

N. C., Mooresville.—Knit Goods.—Chamber of Commerce, C. C. Ward, Secy., interested in plan for \$10,000 company to establish knitting mill.

N. C., Roanoke Rapids.—Cotton Yarns.—Roanoke Mills Co. advises Manufacturers Record: Will build additional mill; 542 ft. by 157 ft. 8 in. main structure, besides auxiliary building; concrete construction and fenestra sash; buildings to cost \$100,000; open bids about Apr. 29; J. E. Sirrine, Engr.-Archit., Greenville, S. C.; install 23,184 spindles, 900 H. P. electric drive, etc., for daily capacity 10,000 lbs. cotton yarn; later add 700 wide looms; new machinery to cost \$30,000; bids have been placed. (Noted in Feb. as to build 23,184-spindle addition, etc.)

S. C., Iva.—Cotton Products.—Jackson Cotton Mills will augment steam-power plant by electricity; use 300 H. P.; contracted with Southern Public Utilities Co. of Charlotte, N. C., for hydro-electric power.

S. C., Seneca.—Cotton Cloth.—Victor-Monaghan Mills, Greenville, S. C., will install 450 new automatic looms in Seneca plant; has let contract.

S. C., Union.—Cotton Cloth.—Victor-Monaghan Mills, Greenville, S. C., will install 490 new automatic looms in Ottatay plant; has let contract.

S. C., Walhalla.—Cotton Cloth.—Victor-Monaghan Mills, Greenville, S. C., will install 332 new automatic looms in Walhalla plant; has let contract.

Tenn., Chattanooga.—Mercerized Products. Standard Processing Co. will build \$16,000 brick addition and equip with new machinery for mercerizing cotton products.

Tenn., Dayton.—Hosiery.—Dayton Hosiery Mills will erect addition; 40x112 ft.; brick; for boarding and mendingroom.

Tenn., Kingsport.—Hosiery.—Kingsport Hosiery Mills let contract to Park-Grimes Co., Chattanooga, at \$45,976 for constructing 4-story 300x80-ft. brick building; W. H. Sears, Archt., Chattanooga; equipment to include 600 knitting machines. (In Feb. noted or organized with \$500,000 capital, W. B. Davis, Pres., etc.)

Va., Bristol.—Climchfield Hosiery Mills, inceptd.; Sherwood E. Hall, Pres.; Edward C. Bailly, Secy., both of White Plains, N. Y.

WATER-WORKS

Ala., Tuskegee Institute.—Tuskegee Normal and Industrial Institute will drill 3 deep wells; contract to be let by Walter G. Franz, Consult. Engr., Union Trust Bldg., Cincinnati, O. (See Machinery Wanted—Well Drilling.)

Ark., Booneville.—Coal Dist. Power Co., Hugh Means, Pres., Lawrence, Kans., will construct water-works at Booneville, Greenwood, Mansfield, Huntington and Hartford.

Ark., Greenwood.—Coal Dist. Power Co., Hugh Means, Pres., Lawrence, Kans., will construct water-works at Greenwood, Mansfield, Huntington, Booneville and Hartford.

Ark., Hartford.—Coal Dist. Power Co., Hugh Means, Pres., Lawrence, Kans., will construct water-works at Hartford, Huntington, Booneville, Greenwood and Mansfield.

Ark., Huntington.—Coal Dist. Power Co., Hugh Means, Pres., Lawrence, Kans., will construct water-works at Huntington, Hartford, Booneville, Greenwood and Mansfield.

Ark., Mansfield.—Coal Dist. Power Co., Hugh Means, Pres., Lawrence, Kans., will construct water-works at Mansfield, Greenwood, Huntington, Booneville and Hartford.

Fla., Inverness.—City contemplates construction of water works. Address The Mayor.

Ga., Davisboro.—City contemplates expending \$17,000 to construct lately-noted water works; 50,000 gals. capacity; power house, cost \$1000; 100,000-gal. concrete reservoir; bonds not voted; Wm. M. Crook, Macon, Ga., Engr.

Ga., Madison.—City, M. F. Brooks, Mayor, let contract to Dysard Construction Co., Atlanta, Ga., at \$24,000 for water-works and sewer extensions; Solomon-Norcross Co., Atlanta, Consult. Engr. (Bids lately noted.)

La., De Ridder.—City, C. C. Davis, Mayor, let contract to J. R. Sutherland Construction Co., Kansas City, Mo., for water-works construction; cost about \$55,000; new pumping station; capacity 2,000,000 gals. daily; 100,000-gal. reservoir; X. A. Kramer, Magnolia, Miss., Engr. (Bids noted in February.)

La., Marksville.—City will retain E. M. Kirsheedt, Marksville, as Consult. Engr. for proposed water-works; bond issue contemplated.

La., Shreveport.—City contemplates extending water system to Henderson Cotton Oil Co.'s plant. Address The Mayor.

Md., Grantsville.—City votes April 2 on bonds for water-works and sewer system. H. C. Bonig, Mayor.

Mo., Kahoka.—City contemplates voting on bonds to extend water-works. L. R. Sherrill, Supt.

Mo., Kirksville.—City contemplates voting on \$135,000 bonds to improve water-works. Address The Mayor.

Okla., Hugo.—City votes March 29 on \$10,000 bonds to install settling basin. (Bond issue noted in Jan. as contemplated.)

Okla., Temple.—City let contract to Sherman Iron Works, Oklahoma City, for lately-noted repairs and extensions to water-works; \$6000 available.

S. C., Fountain Inn.—City engaged John N. Ambler, Engr., Winston-Salem, N. C., to survey city for water-works and sewer system and prepare estimates of cost; also prepare estimates for electric-light and power plant. (Lately noted as contemplating \$50,000 bond issue for water, sewer and electric-light systems.)

Tenn., Bristol.—City has legislative authority to issue \$50,000 bonds to improve water-works. Address City Commrs. (Noted in Jan. as considering bond issue.)

Tex., Corsicana.—City contemplates \$50,000 bond issue to supply water. Address The Mayor.

Tex., Temple.—City adopted plans for reservoir; concrete; cost \$30,000; R. D. Morgan, City Engr., and D. M. Seybold, Supt., will be in charge of construction.

WOODWORKING PLANTS

Ala., Mobile.—Veneer.—Burton Veneer Co. organized; E. R. Burton, Pres.; R. H. Ragan, V.-P.; W. B. Burton, Secy.-Mgr.; occupies 50x210-ft. building; plant equipped. (Lately noted inceptd., capital \$10,000.)

Ark., Pocahontas.—Cooperage.—Warren Cooperage Co., Warren, O., will build cooperage.

Miss., Meridian.—Box Shooks.—Martin & Son, W. P. Martin, Mgr., will build lately-noted factory of mill construction; 30x100, 20x50 and 24x50-ft. structures; cost \$2000; has purchased machinery, cost \$4000, exclusive of boiler and engine, which is already installed; manufacture box shooks, daily capacity 12,000 to 18,000 ft., log scale.

Tenn., Chattanooga.—Boxes.—Chattanooga Mfg. Co. has plans by Chas. Bearden of Chattanooga for plant to replace burned factory; new structures to be brick; fireproof; 70,000 sq. ft. floor space. (Lately noted.)

Tenn., Klondike.—Shingles.—Geo. W. Bolinger is interested in proposed establishment of shingle mill. (See Machinery Wanted—Shingle Mill Machinery.)

Va., Norfolk.—Boxes.—Enrich Box & Lumber Co. will erect addition to mill at Liberty and 14th Sts.; with addition will have daily capacity 75,000 to 100,000 ft.

W. Va., Clarksburg.—Boxes.—Lange & Crist Box & Lumber Co., capital \$100,000, inceptd. by Clyde W. Crist and Philip P. Steptoe of Clarksburg, Paul W. Lange of Fairmont, W. Va., and others.

FIRE DAMAGE

Ala., Birmingham.—Farmers & Ginners' Cotton Oil Co.'s by-product plant at 41st St. and 12th Ave., North, East Birmingham; loss on building and machinery \$20,000.

Ala., Huntsville.—Residence on Triana pike owned by M. G. Chaney, Merrimack.

Ark., Morrilton.—J. B. Blackshear's residence.

Fla., St. Petersburg.—West Coast Inn, owned by Frank C. Carley and Jonathan Hunt; loss \$5000.

Ga., Augusta.—Augusta Bedding Co.'s factory at 922 Jackson St.; loss \$35,000 to \$40,000; building was owned by J. C. Acton and Adrian Ford.

Ga., High Shoals.—Stores of L. T. Williams, J. T. Stowe, J. L. Lowe, High Shoals Mfg. Co., J. H. Allen; postoffice building; loss \$25,000.

Ga., Moultrie.—Building occupied by Moultrie Music & Furniture Co. and Georgia Northern Ry. (F. R. Pidecock, V.-P., Secy. and Gen. Mgr.); loss \$20,000.

Ga., Tifton.—R. J. Cravey's residence near Tifton; loss \$5000.

Ky., Jackson.—John W. Dean's residence; loss \$4000; John F. Auxler's residence; loss several thousand dollars.

Ky., Georgetown.—W. Gaines' residence; loss \$3000.

Ky., Junction City.—Linnietta Hotel, near Junction City, owned by Mrs. Jas. D. Shelby, Danville, Ky.; loss \$10,000.

Ky., Waddy.—J. M. Hackall's residence near Waddy; loss about \$10,000.

Md., Ilchester.—George Stewart's residence near Ilchester; loss \$5000.

Md., Hagerstown.—Hagerstown & Frederick Railway Co.'s car barn at Howard and Summit Aves.; loss \$12,000.

Miss., Meridian.—R. L. Fulton's residence; H. H. Thompson's residence.

Miss., Pascagoula.—W. T. Martin's shingle mill and veneer plant on Krebs Bayou.

N. C., Hickory.—Lorenzo Bowman's residence, 10 mi. from Hickory, in Alexander County; loss \$3000.

N. C., Mount Olive.—Residence 5 mi. from Mount Olive, owned by B. B. Carr estate; loss \$3000 to \$4000.

N. C., Statesville.—Jay Moose's residence in Cool Spring township.

Okla., Binger.—Stores of Baker Bros., J. M. Kainman and others; loss \$25,000.

Okla., Henryetta.—Sullins Steam Laundry; loss \$16,000.

S. C., Easley.—First Baptist Church; loss \$10,000; Rev. H. K. Williams, pastor.

S. C., Greenville.—Robert M. Varnon Co.'s store in Finley Bldg.; loss several thousand dollars.

Tenn., Henderson.—Sorells Hotel.

Tenn., Memphis.—Graham Apartments; owned by Dr. Frank Graham; loss \$30,000.

Tenn., Morristown.—J. P. Fort's residence 4 mi. north of Morristown; loss \$6000.

Tenn., Nashville.—Armour Fertilizer Works' acid chamber building and portion of tower building; estimated loss \$400,000.

Tex., Athens.—W. H. Wallace's residence on West Tyler St.; loss \$3000.

Tex., Benchley.—Tom Kirby's residence near Benchley.

Tex., Cuero.—Dickerson building, occupied by S. Newman.

Tex., Greenville.—Geo. Keith's residence; loss \$3000.

Tex., Malone.—A. D. Walling's garage; loss \$10,000.

Tex., McMahon.—John Brite's store building.

Tex., New Braunfels.—Landa Flour Mills' warehouse; loss \$10,000.

Tex., Temple.—Guy M. Paul's residence; loss \$5000.

Va., Pocahontas.—J. S. Browning's farm residence.

BUILDING NEWS

BUILDINGS PROPOSED

APARTMENT-HOUSES

Fla., Miami.—F. M. Brown receives bids through Edw. A. Nolan, Archt., 19-20 Wayne Bldg., Miami, until Apr. 15 to erect concrete apartment-house; drawings and specifications from architects; owner wires Manufacturers Record: "Structure 50x32 ft.; 7 stories and roof garden; plaster and tile; mill construction inside; estimated cost \$50,000."

Ga., Atlanta.—H. W. Nicholes & Son, 319 Myrtle St., is reported to erect apartment-house on Peachtree St. at far junction of West Peachtree; cost \$150,000.

Mo., Kansas City.—Annetta M. Jenkins will erect 2-story brick flat; cost \$4000.

Mo., Kansas City.—Given Building Co. will erect 3-story brick flat; cost \$25,000.

Mo., Kansas City.—Home Investment Co. will erect eight 3-story 6-apartment brick flats; 1300-22 E. 27th St., 2635-37 Tracy St. and 2634-36 Paseo St.; estimated cost \$120,000.

Mo., Kansas City.—C. W. Hamrick will erect flats at 2801-03, 2805-07, 2809-11 Benton St. and 2907-09, 2911-13 E. 28th St.; 38x34 ft.; brick and stone; gravel roofs; hall and bath floors tile, other floors oak; cost \$15,000 each; steam heat \$1200 each; plans and construction by owner. (Lately noted.)

Mo., Kansas City.—J. H. Williams will erect 2-story 4-apartment brick flat; cost \$5000.

Mo., St. Louis.—Anna M. Schaefer will erect 2-story tenement; cost \$4500.

Mo., St. Louis.—F. C. Krueger will erect store and tenement. (See Stores.)

Mo., St. Louis.—Josephine Sanguinet will erect 2-story tenement; cost \$5000.

Tenn., Memphis.—Dr. Frank Graham will repair Graham Apartments at 1042 Madison Ave., reported damaged by fire at loss of \$30,000; fireproof construction.

Va., Norfolk.—W. H. Clark will erect 2-story brick apartment-house; cost \$5500.

W. Va., Dunbar.—Bank of Dunbar will erect building for apartments, etc. (See Bank and Office.)

ASSOCIATION AND FRATERNAL

Ark., Fort Smith.—B. P. O. E. acquired Majestic Theater building and will remodel for Eagles' Home.

D. C., Washington.—Knights of Columbus, 606 E. St. N. W., are reported to erect \$150,000 structure.

Ga., Savannah.—A. F. & A. M. of Georgia, F. O. Miller, Grand Master, Fort Valley, Ga., will erect \$50,000 home for orphans; plans in progress.

Miss., Hattiesburg.—A. F. & A. M. will erect \$20,000 Masonic Temple.

N. C., Andrews.—A. F. & A. M. will erect lodge building; 2 stories; brick; lower floor for stores, upper for lodge; R. H. Wright, Dr. J. E. Tidwell and others, Building Com.

BANK AND OFFICE

Ala., Ensley.—Smet-Solvay Co. has plans by W. L. Welton, American Trust Savings Bank Bldg., Birmingham, for office building.

Ala., Northport.—Rosenau Co. will soon let contract to erect proposed office and store building at Broad and Greensboro Sts.

Ga., Tifton.—Frank Scarboro Co., inceptd. with \$100,000 capital; will erect \$10,000 bank building; Edwards & Sayward, Archts., Atlanta.

La., Hammond.—N. H. Williams has plans for store and office building. (See Stores.)

Md., Baltimore.—Geo. R. Morris, Title Bldg., and others acquired site at Charles and Saratoga Sts. and will erect building for doctors and dentists; 10 stories; Gothic style; steel and concrete; glazed cream-white terra-cotta front; 190x139 ft.; tile and concrete floors; enamel metal walls; metal doors built flush; elevator; piped for compressed air; electric lights; heavy current for X-ray apparatus; lower floor for stores; upper floors, about 150 suites for professional men; estimated cost \$350,000; plans and construction in charge of Mr. Morris' office.

Mo., St. Louis.—Tower Grove Bank will erect bank building.

N. C., Henderson.—Henderson First National Bank is having plans prepared by Milburn, Helster & Co., Union Savings Bank Bldg., Washington, D. C., for building specification; felt, tar and gravel roof; concrete hollow tile floors; cost \$60,000; bids opened in about 2 months. Architects wire Manufacturers Record: "Structure 45x100 ft.; 4 stories; fireproof."

N. C., Rocky Mount.—First National Bank is having plans prepared by Milburn, Helster & Co., Union Savings Bank Bldg., Washington, D. C., for building specification; felt, tar and gravel roof; concrete hollow tile floors; cost \$60,000; bids opened in about 2 months. Architects wire Manufacturers Record: "Structure 45x100 ft.; 4 stories; fireproof."

ter & Co. Union Savings Bank Bldg., Washington, D. C., for bank building; specification, tar, felt and gravel roof; concrete hollow tile floors; bid opened in about 2 months; cost \$100,000. Architects wire Manufacturers Record: "Structure 60x60 ft.; 6 stories; fireproof." (Lately noted.)

Okla., Bristow.—Ed Abraham has plans by Griffith & Sons, Sapulpa, Okla., for bank, store and office building; 50x120 ft.; brick; cement floors; gas heat; cost \$12,000. Address owner. (Lately noted.)

Okla., Halderton.—First National Bank of Halderton inceptd. by J. L. Hamon, C. T. Barringer, Harold Wallace and others; will erect bank building.

Okla., Tulsa.—A. D. Walker will erect office building; 50x140 ft.; cost \$5,000.

Okla., Tulsa.—A. F. Bryant will erect brick office building; cost \$7,000.

Okla., Tulsa.—McMann Oil Co. is reported to erect store and office building. (See Stores.)

Okla., Tulsa.—R. M. McFarlin states there is no foundation to recent report that he will erect 16-story office building.

S. C., Greenville.—J. B. Rasor has plans by H. Olin Jones, Greenville, for 3-story office and store building; 62x170 ft.; first floor for storeroom; cost \$20,000. (Lately noted.)

Tenn., Rockwood.—First National Bank will probably erect building at Rockwood Ave. and Chamberlain St.

Tex., Dallas.—Southland Life Insurance Co., Harry L. Seny, Pres., is reported to expend \$300,000 to erect 8-story addition to building; 75x100 ft.

Tex., Waxahachie.—Waxahachie National Bank plans to erect 5-story bank and office building.

W. Va., Dunbar.—J. M. Byrne, Jr., will erect store and office building. (See Stores.)

W. Va., Dunbar.—Bank of Dunbar will erect bank, office and apartment building; 2 stories; brick.

CHURCHES

Ala., Birmingham.—Norwood Methodist Church, Dr. James A. Duncan, Pastor, will erect \$50,000 structure.

Ark., Benton.—Methodist Episcopal Church, South, Rev. W. A. Steel, Pastor, has plans by C. L. Thompson, Little Rock, for church and Sunday-school building; 70x90 ft.; brick; slate roof; inclined wood flooring; electric lights; cost \$15,000; will let contract about May 1.

Ark., Marshall.—Methodist Church, Rev. Mr. Spinks, pastor, will erect building; 45x60 ft.; native stone; shingle roof; wood floor; city electric lights; cost, complete, \$4,000; construction by pastor. (Lately noted.)

Fla., Brookville.—Methodist Church will expend \$800 to erect parsonage and addition to church. Address The Pastor.

Fla., Muscogee.—J. H. Patterson, Chrmn. Building Com., is receiving bids to erect church; plans and specifications at office Walker D. Willis, Pensacola, Fla.

Fla., Perry.—Methodist Church will erect building. Address The Pastor.

Ga., Macon.—Cherokee Heights Baptist Church has plans by P. E. Dennis, American National Bank Bldg., Macon, for frame building; cost \$3500.

Ga., Milledgeville.—Baptist Church will erect building; cost \$40,000. Address The Pastor.

Ga., Shellman.—Methodist Episcopal Church, South, will soon let contract to erect building; brick; limestone; fireproof roofing; furnace heat; art glass; main auditorium to seat 500; 14 classrooms; cost \$10,000; T. F. Lockwood, Archt., Murrah Bldg., Columbus, Ga.

Mo., Kansas City.—Oak Park Christian Church will erect building; cost \$15,000. Address The Pastor.

N. C., Charlotte.—First Reformed Church, Rev. Shuford Peeler, pastor, has plans by Louis H. Asbury, Charlotte, for \$20,000 building; brick; stone walls; slate roof; wood floors; steam heat; electric lights; day labor. Address The Pastor. (Previously noted.)

N. C., Chapel Hill.—Presbyterian Church will erect \$30,000 building. Address The Pastor.

N. C., Greensboro.—North Elm Street Christian Church, Rev. Thomas R. Brown, Pastor, will erect building.

Okla., Hobart.—First Christian Church will erect building. Address The Pastor.

Okla., Shawnee.—Methodist Episcopal Church South receives bids through A. T.

McKee, Secy. Building Co., until Mch. 30 to erect 2-story-and-basement building; plans and specifications at office S. C. Vinson, over Shawnee National Bank, Shawnee, Okla., and Hawk & Parr, Archts., Oklahoma City. (Lately noted.)

Okla., Norman.—First Baptist Church will erect \$25,000 structure. Address The Pastor.

Okla., Tulsa.—Christian Church, Rev. J. W. Darby, pastor, 322 S. Nogales St., will erect building; 100x140 ft.; semi-fireproof; steam or hot-air heat; indirect electric lighting; cost \$75,000; construction probably begins in 2 months; architect not selected. Address The Pastor.

Tenn., Clarksville.—First Baptist Church is having plans prepared by John Gaisford, 408 Goodwyn Institute, Memphis, for building; classic style; cost about \$60,000. Address Sterling Fort, Chrmn. Bldg. Com., Northern Bank of Tennessee, Clarksville. (See Machinery Wanted—Church Equipment; Seating.)

Tex., Bryan.—Free Baptist Church is having plans prepared by Mr. Jenkins, Bryan, for building; about 40x60 ft.; brick; flat roof; cost \$6,000; date opening bids not set. Address J. J. Tatum, Chrmn. Building Com. (Lately noted.)

Tex., Ennis.—First Presbyterian Church will expend \$10,000 to remodel building. Address The Pastor.

Tex., Houston.—Tabernacle Methodist Church, John E. Green, Pastor, will erect \$35,000 structure. (Lately noted under Tex., Crawford.)

Tex., Ladonia.—Christian Church is having plans prepared by Sparger & Peters, Bonham, Tex., for building to replace structure lately noted damaged by fire; 65x90 ft.; brick; metal roof; wood and concrete floors; hot-air heat; electric lights; concrete sidewalks; cost \$15,000. Address T. A. Walker, Ladonia.

Tex., Mt. Pleasant.—Baptist Church will erect \$25,000 building. Address The Pastor.

Va., Richmond.—Asbury Methodist Church is considering erecting \$25,000 building. Address The Pastor.

Va., Richmond.—Grace Covenant Presbyterian Church has plans by Ferguson, Carroll & Wrenn, Norfolk, and receives bids until April 2 to erect building; brick, stone, steel and concrete; slate and gravel roof; steam heat; cost \$90,000.

Va., Richmond.—Woodland Heights Baptist Church has plans by J. M. McMichael, Charlotte, N. C., for Sunday-school building; 65x86 ft.; brick; slate roof; concrete and wood floors; low pressure steam heat; cost \$15,000; P. J. White & Son, Supts. of Constr., Richmond, and they or Jos. P. Sadler, Chrmn. of Building Com., may be addressed.

W. Va., Beckley.—Christian Church, Rev. C. E. Rostifer, Pastor, receives bids until April 10 to erect church and Sunday-school building; 59x78 ft.; fireproof exterior only; built-up asbestos roof; electric lights; cost \$16,000; steam heat, \$1400; A. A. Honeywell Co., Archts., Kokomo, Ind. (Lately noted.)

W. Va., Huntington.—Trinity Episcopal Church, Rev. S. Roger Tyler, rector, will erect parish-house; 2 stories and basement; brick and stone; gymnasium; cost \$35,000; E. N. Alger, Archt., Huntington.

CITY AND COUNTY

Ark., Arkadelphia.—Jall.—Clark County appointed Thos. Green and Roy Golden, Commrs., to remodel and enlarge county jail.

D. C., Washington.—Market.—District Commissioners, Room 509 District Bldg., Washington, receive bids until Mch. 30 to erect fish market and appurtenant buildings on Water St.; blanks, plans and specifications at office Chief Clerk, Engr. Dept., Room 427 District Bldg.; following contractors estimating: W. E. Mooney, 505 Evans Bldg.; A. L. Smith & Co., 1111 Woodward Bldg.; A. M. Poynton Co., 715 14th St. N. W.; all of Washington; Kogswell-Koether Co., 406 Park Ave.; J. Henry Miller, Inc., both of Baltimore. Lately noted.

Fla., De Funiak Springs.—Fire Station.—City will erect fireproof brick fire-engine house. Address The Mayor.

Fla., West Tampa, Sta. Tampa.—Market.—City will erect public market; 50x100 ft.; 15 to 20 stalls; frame; construction under supervision of Hugh C. Macfarlane, Supt. Board of Public Works; material furnished by city.

Miss., Macon.—City Hall.—City, Jas. G. Morton, Mayor, receives bids Mch. 26 to remodel city hall; bids taken as whole or on woodwork and brick work separately;

plans and specifications at office J. J. Scott, City Clerk. (Previously noted.)

Okla., Sulphur.—City Hall.—City, H. B. Webster, Mayor, sold \$6000 bonds to erect city hall.

Okla., Sapulpa.—Fire Station.—City accepted plans by Griffith & Son, Sapulpa, for fire station on east side; brick; bungalow style; cost \$5,000.

Tex., Bartlett.—City Hall.—City voted \$3000 city hall bonds. (See Schools.)

Tex., Brownwood.—City Hall and Fire Station.—City has plans by Henry T. Phelps, San Antonio, for city hall and fire station; brick; fireproof; roofing not decided; reinforced concrete and wood floors; steam heat; cost \$30,000; probably let contract in April. Address City Manager. (Previously noted.)

Tex., Fort Worth.—Fieldhouse, etc.—Park Commrs. are considering erecting fieldhouse at Marine Park and swimming pool at Trinity Park; plans for former call for central room, shower baths, auditorium and 1 or 2 other rooms.

COURTHOUSES

Ga., Decatur.—DeKalb County Commrs. open bids Apr. 12 to erect courthouse according to plans by Walker & Chase, 1033 Candler Bldg., Atlanta; 62x150 ft.; fireproof; granite exterior; terra-cotta ornaments and cornice; tile roof with tin deck; steam heat; electric lights. (Noted in Feb.)

Mo., Bowling Green.—Pike County Commissioners, C. M. Davis, Clerk of County Court, receives bids until April 16 to erect 3-story stone-veneer courthouse; plans and specifications at office H. H. Hohenschild, Archt., Suite 310-11-12 Navarre Bldg., St. Louis. (Previously noted.)

Tex., Brownwood.—Brown County has plans by Henry T. Phelps, San Antonio, for courthouse; brick; fireproof; roofing not determined; reinforced concrete and wood floors; steam heat; cost \$65,000; probably let contract in April. Address County Judge. (Lately noted.)

Tex., McKinney.—Collin County Commrs. are having plans prepared by C. H. Page & Bro., Austin National Bank Bldg., Austin, to remodel building; estimated cost \$60,000.

W. Va., Glenville.—Walker & Chase, 1033 Candler Bldg., Atlanta, Ga., are not architects for proposed Gilmer County Court as lately noted.

DWELLINGS

Ala., Ozark.—Dr. H. L. Homan has plans by Lella Ross Wilburn, Peters Bldg., Atlanta, for frame residence; 1½ stories; press brick foundation; shingle roof; hardwood floors; electric lights; cost \$3,000.

Ala., Hartsboro.—T. S. Davis has plans by T. F. Lockwood, Murrah Bldg., Columbus, Ga., for \$5,000 residence; frame; 1 story; 8 rooms; composition shingle roof; tiled baths.

Ala., Montgomery.—I. A. Anderson will expend \$5,000 to remodel residence.

Ark., Little Rock.—H. F. Auten will erect two 6-room bungalows; cost \$5,000.

Ark., Little Rock.—D. M. Ross will erect 2-story frame structure; cost \$4,950.

Ark., Magnolia.—T. H. Westbrook will erect residence; 1 story; frame; stone foundation; shingle roof; electric lights; hardwood floors; cost \$3,000; Lella Ross Wilburn, Archt., Peters Bldg., Atlanta.

D. C., Washington.—Wm. I. Evans, 738 13th St. S. E., will erect dwelling at 2800 25th St. N. E.; cost \$3,300; A. M. Schneider, Archt., 1430 K St. N. W., Washington; construction by owner.

D. C., Washington.—Thrift Building Co., 709 Union Trust Bldg., has plans by Geo. T. Santmyers, 921½ New York Ave., Washington, for 2 dwellings, 3706 and 3729 Kanawha St.; cost \$6,000.

D. C., Washington.—Harry Kite, 1338 G St. N. W., will erect 10 dwellings in A St. N. E.; brick; 2 stories; 6 rooms and bath.

Fla., Belleair.—Frank G. Jones, Pres. of Belleair Country Club, will erect residence at Belleview.

Fla., Jacksonville.—R. Buffalo will erect 2-story frame dwelling; cost \$7,200.

Fla., St. Petersburg.—W. K. Maise will erect bungalow at 4th Ave. and Wood St.

Fla., St. Petersburg.—R. Ehrenfeld, Pittsburgh, Pa., is reported to erect apartment-house at 5th St. and 6th Ave.

Fla., St. Petersburg.—Franklin M. Apple will erect residence.

Fla., St. Petersburg.—Mrs. Elva A. Reed will erect residence.

Fla., St. Petersburg.—Howard Leshar will erect residence on Beach Drive; Dutch-Colo-

nial type; H. H. Dupont, Archt., St. Petersburg.

Fla., St. Petersburg.—Miss E. N. Hill will erect residence; 6 rooms and bath; brick veneer; cost \$3,500; garage, \$600.

Ga., Albany.—Thomas Silman will erect 2-story 8-room dwelling; cost \$4,500.

Ga., Albany.—M. W. Cruger will erect residence; frame; 1½ stories; 9 or 10 rooms; cost \$5,000 to \$6,000.

Ga., Albany.—R. W. Paine will erect residence; 1½ stories; frame; stone foundation; shingle roof; hardwood floors; furnace heat; cost \$3,000; Lella Ross Wilburn, architect, Peters Bldg., Atlanta.

Ga., Atlanta.—C. M. Owen will erect 1-story brick-veneer bungalow; composition shingles; stucco gables; electric lights; hardwood floors; cost \$3,500; Lella Ross Wilburn, Archt., Peters Bldg., Atlanta.

Ga., Atlanta.—G. F. Turner has plans by Lella Ross Wilburn, Peters Bldg., Atlanta, for residence; 2 stories; brick veneer; slate or tile roof; cement porch and basement floors; steam heat; hardwood floors; tile baths; electric lights; cost \$5,200. (Lately noted.)

Ga., Atlanta.—J. H. Whitten will erect residence; 2 stories; press-brick veneer; tile roof; vapor heat; cement porch floor; 3 tiled bathrooms; hardwood interior trim; metal frame screens; cost \$12,000; Lella Ross Wilburn, Archt., Peters Bldg., Atlanta.

Ga., Atlanta.—Mrs. Nora G. Webb has plans by Lella Ross Wilburn, Peters Bldg., Atlanta, for 2 brick-veneer residences; 2 stories; composition shingle roof; furnace heat; cement porch floors; tiled bathrooms; electric lights; hardwood floors; cost \$3,500 each. (Lately noted.)

Ga., Atlanta.—Mrs. Helen Williamson will erect two 2-story brick-veneer bungalows; composition shingle roof; cement porch floors; hardwood floors; tiled bathrooms; electric lights; cost \$3,250 each; Lella Ross Wilburn, Archt., Peters Bldg., Atlanta.

Ga., Atlanta.—W. S. Archer, Jr., will erect residence; 2 stories; frame; shingle roof; hardwood floors; electric lights; cost \$3,000; Lella Ross Wilburn, Archt., Peters Bldg., Atlanta.

Ga., Carlton.—J. A. Stevens will erect residence; 2 stories; frame; press-brick foundation; shingle roof; electric lights; hardwood floors; Lella Ross Wilburn, Archt., Peters Bldg., Atlanta.

Ga., Decatur.—W. A. Ozmer will erect residence; 2 stories; frame; press-brick foundation; shingle roof; electric lights; cost \$4,000; Lella Ross Wilburn, Archt., Peters Bldg., Atlanta.

Ga., Decatur.—W. H. S. Hamilton will erect bungalow; 1 story; brick veneer; composition shingles; cement porch floors; hardwood interior floors; tiled baths; furnace heat; electric lights; cost \$3,000; Lella Ross Wilburn, Archt., Peters Bldg., Atlanta.

Ga., Lagrange.—A. Culberson has plans by Lella Ross Wilburn, Peters Bldg., Atlanta, for residence; 1 story; frame; shingle roof; hardwood floors; electric lights; metal frame screens; cost \$3,500.

Ga., Marietta.—E. P. Dobbs will remodel and enlarge residence; 2 stories; frame; composition roof; hardwood floors; hot-water heat; tile bathrooms; cost \$3,000; A. Barill, Jr., Archt., Grant Bldg., Atlanta; day labor.

Ky., Louisville.—C. P. Harding will erect fireproof cleaning building and brick dwelling; cost \$5,500.

Ky., Louisville.—W. B. Morgan will erect 3 frame dwellings; cost \$3,600.

Ky., Whitesburg.—J. Henry Hall will erect 25 miners' houses on J. C. and R. B. Day coal lands near Whitesburg.

La., New Orleans.—A. M. Boaner will erect double 1-story residence; cost about \$3,000.

La., New Orleans.—L. Aronson will erect 2 double cottages; cost \$3,000.

La., New Orleans.—Wm. T. Kent will erect 1-story residence; cost \$3,300.

Md., Baltimore.—T. E. Biddison, 3312 Elgin Ave., will erect lately-noted twenty-four 2-story dwellings on Furrow St.; brick; tin or slag roofs; furnaces; cost \$20,000; construction begins April 1. (See Machinery Wanted—Building Materials; Doors; Flooring.)

Mo., Kansas City.—M. G. Traylor will erect 2-story 10-room frame dwelling; cost \$3,500.

Mo., Kansas City.—R. R. Traylor will erect 10-room 2-story frame dwelling; cost \$3,500.

Mo., Kansas City.—Wm. B. Hill is having plans prepared by Shepard & Belcher, Kansas

City, for residence in Mission Hills; 10 rooms and 2 baths; 56x29 ft.

Mo., Kansas City.—W. R. Lynch will erect 10-room 2-story frame dwelling; cost \$3500.

Mo., Kansas City.—E. W. Hayes will erect two 1-story frame dwellings; cost \$3200.

Mo., Kansas City.—C. A. Price will erect 2-story stucco dwelling; cost \$3000.

Mo., Kansas City.—J. C. Nichols will erect 2-story brick dwelling at 835 W. 55th St.; cost \$11,000.

Mo., Kansas City.—H. A. Dyer, Prest. National Hay Co., will erect residence at 59th Street Ter. and Summit St.

Mo., Kansas City.—H. Reese will erect 10-room 2-story frame dwelling; cost \$3500.

Mo., Kansas City.—I. Wyll will erect 12-room 2-story frame dwelling; cost \$3500.

Mo., Kansas City.—Mrs. E. Makley will erect 16-room 2-story frame dwelling; cost \$4000.

Mo., Kansas City.—Wm. M. Hiff has plans by Wm. S. McCoy, Independence, Mo., for 3 residences; 30x23 ft. with 11x10 ft. projection; cement stucco on metal lath; shingle roof; pine and oak floors; cost \$4500; hot-air heat \$25; electric wiring \$50; construction by owner. (Lately noted.)

Mo., Kansas City.—P. H. Hovey & Son will erect dwelling; 2 stories; concrete; cost \$5000.

Mo., St. Louis.—C. M. Leird will expend \$500 to remodel residence.

N. C., Greensboro.—Real Estate & Trust Co. will erect 2-story frame residence; press-brick foundation; electric lights; hardwood floors; cost \$3000; Lella Ross Wilburn, Archt., Peters Bldg., Atlanta.

N. C., Lexington.—L. A. Martin has plans by Lella Ross Wilburn, Peters Bldg., Atlanta, for residence; frame; 1½ stories; 11 rooms; stone foundation; composition shingle roof; steam heat; hardwood floors; tiled bathrooms; electric lights; cost \$3000.

N. C., Statesville.—C. H. Turner will erect residence; brick veneer; slate or composition roof; steam heat; hardwood floors; tile mantles; cost \$5000; construction begins May 1.

Okla., Muskogee.—Dr. R. N. Ewing will erect \$3000 residence.

Okla., Muskogee.—Jas. A. Dickman will erect residence; cost \$3500.

Okla., Oklahoma City.—H. P. Smiser will erect 2-story brick and tile dwelling; cost \$16,700.

Okla., Oklahoma City.—J. W. Struck will erect 1-story frame dwelling; cost \$3000.

Okla., Oklahoma City.—C. E. Huffman will erect seven 1-story frame dwellings; cost \$15,500.

Okla., Oklahoma City.—Nichols & Chandler will erect two 1-story frame dwellings; cost \$6000.

Okla., Oklahoma City.—T. Lockwood will erect 2-story frame dwelling; cost \$4000.

Okla., Tulsa.—Connell & Glenn will erect \$3000 residence.

Okla., Tulsa.—C. A. Titus will erect \$5000 residence.

Okla., Tulsa.—Ed Dalton will erect 2 residences; cost \$4500.

Okla., Tulsa.—Elwood L. C. Murray will erect \$5000 residence.

Okla., Tulsa.—Jane G. Copple will erect \$4000 residence.

Okla., Tulsa.—M. Lebow will erect \$5000 residence.

Okla., Tulsa.—W. H. Hendee will erect two 2-story residences in Maple Ridge; cost \$17,000.

Okla., Tulsa.—L. N. Ewing will erect \$4000 residence.

Okla., Tulsa.—W. L. Garver will erect 2 residences; cost \$4000.

Okla., Tulsa.—W. B. Killmer will erect residence; cost \$4150.

Okla., Tulsa.—Pat Malloy will erect \$16,000 residence.

Okla., Tulsa.—Roy Lundy will erect \$3000 residence.

S. C., Columbia.—Irvine Belser will erect residence.

S. C., Greenville.—F. J. Stover will erect 2-story residence; cost \$4000.

Tenn., Memphis.—G. L. Cronkrite has plans by Regan & Weller, Memphis, for residence; about 14 rooms; frame and stucco; asphalt shingle roof; hardwood floors; cost \$12,000; hot-water heat, \$600; bids in but contract not let; construction begins in few days.

Tenn., Memphis.—W. J. Norris, Bunty, Tenn., has plans by Regan & Weller, Memphis, for residence; approximately 14 rooms;

frame and stucco; asphalt shingle roof; wood floors; hardwood floors on first floors; cost \$10,000; hot-water heat, \$600; labor furnished by owner on percentage basis; foundation begun. Address owner. (Lately noted.)

Tenn., Pulaski.—Mahlon H. Webb will erect residence on South 3d St.

Tex., Dallas.—E. L. Rice will erect 10-room 2-story frame dwelling; cost \$3000.

Tex., El Paso.—Anderson & Filler will erect bungalow on California St.; cost \$3900.

Tex., El Paso.—Phoenix-El Paso Building Co. will erect \$3000 residence on Bliss St.

Tex., El Paso.—Creel Realty Co. will erect 3 brick bungalows; 4 rooms and sleeping porch; cost \$3500 each.

Tex., El Paso.—W. J. Ahrens will erect bungalow; cost \$4400.

Tex., El Paso.—C. J. Neel will erect 3 residences; 2 bungalow type; cost \$14,000.

Tex., El Paso.—James L. Marr & Co. will erect 5 bungalows; 5 rooms, basement and glazed sleeping porch; cost \$3450 each.

Tex., San Antonio.—O. W. Krause will erect 9-room dwelling; cost \$5000.

Tex., San Antonio.—J. H. Weymouth will erect 2-room dwelling; cost \$3000.

W. Va., Dunbar.—Chas. G. Walker will erect cottage.

W. Va., Dunbar.—Frank Lindsey will erect 2-story frame dwelling.

W. Va., Dunbar.—I. L. Thompson will erect residence.

W. Va., Dunbar.—Walter S. Thurston will erect frame residence.

Va., Norfolk.—Dr. Charles W. Doughtie will erect 4 residences; cost \$8000.

Va., Norfolk.—F. M. Killam will erect 2-story frame residence.

Va., Richmond.—Mary A. Snuley will erect brick dwelling; cost \$3500.

Va., Richmond.—Central Realty Co. will erect 2 frame dwellings; cost \$3000.

Va., Richmond.—John J. Wicker will expend \$7000 to repair brick dwelling.

Va., Richmond.—Davis Bros. will erect eight 2-story brick dwellings on Allen Ave.; cost \$24,000.

Va., Richmond.—J. E. and C. A. Seaton will erect two 2-story brick dwellings; cost \$11,500.

Va., Richmond.—W. S. Bell and Rosa B. Woodward will erect 3 brick dwellings; cost \$15,000.

W. Va., Westery.—Solvay Collieries Co. is constructing 34 dwellings for operatives under direction of A. B. Rawn, Gen. Mgr.

GOVERNMENT AND STATE

Ky., Marlon.—Postoffice.—Treasury Department, Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., will erect postoffice; 40x60 ft.; brick; slate roof; tile floors; city lighting; cost \$45,000; sidewalks, \$1000; A. W. Lane, Chicago, low bidder at \$35,710. (Previously noted.)

Va., St. Juliens Creek.—Storehouse and Locomotive House.—Bureau of Yards and Docks, Navy Department, F. R. Harris, Chief, Washington, D. C., opens bids April 2 to erect storehouse at Naval Ammunition depot; 1 story and mezzanine; 54x126 ft.; concrete foundation; steel frame with steel roof trusses and steel purlins; concrete base; wood wall framing covered with galvanized corrugated steel; mezzanine floor with wood flooring supported on wood posts, girders and joists; concrete floor on sand or gravel for first floor, with outside reinforced concrete platform; wood sheathed roof covered with 4-ply asbestos roofing; wood doors and windows; galvanized iron cornice and ventilators; also receive bids at same time to erect locomotive house; 28x28 ft.; brick walls; concrete footings; concrete floors with inspection pit, footing for motor generator, conduit for electric-power lines; wood roof covered with slate; wood-sheathed motorroom; plans and specifications on application to Bureau at Washington, or Commandant at Navy Yard at Norfolk, Va.

HOSPITALS, SANITARIUMS, ETC.

Ark., Texarkana.—Pine Street Sanitarium will erect annex and remodel present structure; new building 3 stories and basement; brick; red tile roof; terra-cotta trim; 25 rooms, 12 with private baths; tile floors in corridors and baths; ambulance entrance; diet kitchens and linen closets on all floors; flashlight signals; automatic elevator system; 2 broad porches across front; completion by July 1.

Ky., Hazard.—Bodkin Hospital will expend several thousand dollars for improvements. Address Dr. M. E. Combs.

Md., Baltimore.—Union Protestant Infirmary, 1514-30 Division St., is having plans prepared by Joseph Evans Sperry, 409 Calvert Bldg., Baltimore, for hospital building; details not determined. (Previously noted.)

Md., Baltimore.—Johns Hopkins Hospital, Broadway and Monument St., will erect research-room to laboratory of Phipps Clinic; red brick with black mortar; slate roof; completion by June 1.

Mo., Joplin.—City plans \$60,000 bond issue to erect hospital; R. B. Tyler, M.D., Commr. of Health.

Okla., Oklahoma City.—Legislature appropriated \$200,000 for hospital building for Medical School of University of Oklahoma. (See School, Okla., Norman.)

Tex., Dallas.—Texas Baptist Memorial Sanitarium has plans by C. W. Bulger & Son, Dallas, for nurses' training school and receives bids until March 31; 92x110 ft.; 6 stories; reinforced concrete; tile and cork composition roof; steam heat; electric lights; elevators; cost \$130,000. (Previously noted.)

Tex., Lubbock.—Dr. A. R. Ponton, Post, Tex., has plans by Rose & Peterson, Kansas City, Mo., for hospital; 100x100 ft.; brick and concrete; composition roof; concrete floors; cost \$50,000; direct steam heat, \$5000; automatic elevator, \$2500; bids opened April 11; construction begins April 30. Address owner. (Lately noted.)

Va., Winchester.—Mrs. Henry B. Gilpin, Boyce, Va., will erect and equip children's department at Winchester Memorial Hospital; cost \$10,000; Dr. Hunter H. McGuire, Prest.

HOTELS

Fla., Miami.—C. J. Martin will erect hotel; 12 stories; 300 rooms; concrete fireproof construction.

Miss., Tupelo.—Tupelo Young Men's Business Club, R. W. Reed, Prest., is reported promoting erection of \$60,000 hotel; construction to begin about April 1.

Miss., Vicksburg.—W. L. Nicholson will construct solid front on Washington Hotel block, to include Delta Drug Store, Washington Hotel, Washington Hotel Restaurant, Goodman's store and another store; work begins May 1.

S. C., Gaffney.—Gaffney Hotel Co. has plans by Louis H. Asbury, Charlotte, N. C., for hotel; 60x103 ft.; brick and steel; gravel roof; tile and hardwood floors; steam heat; electric lights; 1 freight and 2 passenger elevators; cost \$50,000; bids opened by April 1. Address Geo. G. Byers, Prest. (Lately noted.)

Tenn., Humboldt.—J. E. Campbell, O. C. Sharp and G. W. Bailey acquired Commercial Hotel and will enlarge.

Tex., El Paso.—G. Zork will erect store and hotel building. (See Stores.)

Tex., El Paso.—McGregor & Henger will erect business and hotel building. (See Stores.)

W. Va., Ashland.—Mayor Salisbury of Huntington, W. Va., and John Kobs are reported promoting company to erect hotel; 50 rooms; 7 stories; lower floor for business purposes.

MISCELLANEOUS

D. C., Washington.—Market.—Old Dutch Market Co., J. A. Whitfield, Prest., 916 C St. N. W., will remodel building at 1421 G St. N. W. for market.

Ga., Valdosta.—Clubhouse.—Valdosta Country Club is having plans prepared by Lloyd Greer, Valdosta, for clubhouse; cost \$7000 to \$8000.

Ky., Louisville.—Auditorium.—Louisville Auditorium Co. adopted plans by D. X. Murphy & Bro., Louisville, for auditorium; Renaissance style; seating capacity 4100; 200x155 ft.; 1 balcony, mezzanine floor, 5 open boxes; committeroom on mezzanine floor, 82x21 ft., to seat 250; lobby with marble wainscote and tile floor; lower portion of front stone, upper part brick with stone trim; glass canopy 16x24 ft. from center of entrance to sidewalk; stage 42½ ft. deep with proscenium arch 45 ft. wide, arranged for extension to 72 ft.; dressing rooms separated from stage by brick wall; cost \$225,000; bids opened in about 30 days. (Previously noted.)

Md., Cumberland.—Salvation Army.—Salvation Army has plans by Geo. Frank Sansbury, Cumberland, for proposed \$40,000 home; 4 stories; brick and stone; concrete basement; Geo. M. Woods, Adf.

Miss., Laurel.—Fair.—South Mississippi Fair Assn. plans to erect several additional fair buildings.

Va., Covington.—Home.—Episcopal Home for Homeless Boys, Geo. Floyd Rogers, Prest., will erect 3 additional cottages to accommodate 20 boys; cost \$5000 each. (Lately noted to build refectory, laundry and power-house.)

Va., Norfolk.—Stable.—D. Pender will erect 2-story brick stable; cost \$5800.

RAILWAY STATIONS, SHEDS, ETC.

Ala., Atmore.—Louisville & Nashville R. R., W. H. Courtenay, Chief Engr., Louisville, Ky., will erect depot.

Ark., Gentry.—Kansas City Southern Ry., C. E. Johnston, Chief Engr., Kansas City, Mo., is considering erecting depot.

Md., Frederick.—Pennsylvania Railroad Co., A. C. Shand, Chief Engr., Philadelphia, receives bids until March 22 to erect passenger station; 2 stories; brick; concrete foundation; slate roof; cut stone trim; cement floors; 2 waiting rooms, each 25.6x19 ft.; drinking fountains; baggage room 15x15 ft.; steam heat. (Previously noted.)

N. C., Burgaw.—Atlantic Coast Line Ry., J. E. Willoughby, Chief Engr., Wilmington, N. C., will erect passenger station.

Tenn., Sevierville.—Knoxville, Sevierville & Eastern Railway, L. E. Wooten, Gen. Mgr., Knoxville, will erect depot near Sevierville; macadamize Bruce St., etc.

Tex., Beaumont.—St. Louis, Brownsville & Mexico Ry., R. J. Kirkpatrick, Division Engr., Kingsville, Tex., is reported to expend \$75,000 to erect depot and terminals.

W. Va., Gypsy.—Monongahela Valley Traction Co., S. B. Miller, Chief Engr., Fairmont, W. Va., will erect car barn; 40x120 ft.

SCHOOLS

Ala., Birmingham.—Jefferson County Board of Education will erect 65 to 70 rural schools; estimated cost \$400,000. Address Supt. McNeill.

Ala., Mobile.—Mobile County Board of Education, S. S. Murphy, Supt., is having plans prepared by Geo. B. Rodgers, Van Antwerp Bldg., Mobile, for rural schools. (Previously noted to have voted \$150,000 school bonds.)

Ala., Opelika.—City has plans by Frank Lockwood, Montgomery, Ala., for school; 3 stories; brick and stone; flat sand and gravel roof; wood and cement floors; cost \$30,000; date opening bids not set. Address J. G. Palmer, Mayor. (Lately noted to vote April 9 on \$30,000 bonds.)

Ala., Plateau.—Mobile County Board of Education, S. S. Murphy, Supt., Mobile, Ala., receiving bids to erect Plateau school; also bids on 400 desks for schools.

Ark., Conway.—State Normal School, J. J. Boyne, Prest., Little Rock, will erect administration building.

Ark., Pine Bluff.—Directors Pine Bluff Special School Dist. have plans by Mitchell Selligman, Pine Bluff, for high school; 120x154 ft.; 3 stories and basement; fireproof; built-up flat roof; reinforced concrete floors; conduit wiring; clock system; intercommunicating phones; cost \$120,000; vapor heating \$12,000; will let contract Apr. 7. Address H. B. Strange, Pine Bluff. (Lately noted.)

Fla., Bonita Springs.—Bonita Springs Special Tax School Dist., K. A. Leitner, Secy. Trustees, will erect school; 2 stories; 50x50 ft.; concrete; wood floors; other details not determined; will call election on \$8000 bonds. (Lately noted.)

Fla., Holly Hill.—Board of Public Instruction of Volusia County, De Land, Fla., receives bids through C. R. M. Sheppard, Supt., De Land, until April 12 to erect school building; plans and specifications at office John T. Cairns, Archt., De Land; 55x111 ft.; 1 story; tapestry brick veneer; built-up felt and asphalt roof; wood floors; steam heat. (Lately noted.)

Fla., Laurel Hill.—Laurel Hill Special Tax School Dist. voted \$15,000 bonds to erect brick school. Address Okaloosa County School Board, Milligan, Fla.

Fla., West Palm Beach.—West Palm Beach County Board of Education will erect schools at Torrey Island and Kraemer Island. Address County Supt. of Schools, Metcalf.

Ga., Athens.—City receives bids until Mar. 26 to erect gymnasium at high school; plans and specifications obtainable at office J. W. Barnett, City Engr.; cost \$5000. (Lately noted.)

Ga., Brunswick.—City will vote on \$40,000 bonds, \$30,000 to erect grammar school in south end of city, \$10,000 to enlarge negro school to provide industrial training; Glynn

County also will vote on \$50,000 bonds, \$35,000 to construct County mechanical and industrial building for white boys in Brunswick, and \$15,000 for community school in country. Address The Mayor and County Comms.

Ga., Ellaville.—Ellaville School Board will let contract Apr. 6 to erect \$10,000 building.

Ga., Millen.—City will erect school; brick; metal roof; frame floors; steam heat; city electric lights; cost about \$15,000; construction probably begins in 60 days. Address I. O. Parker, Mayor. (Lately noted.)

Ga., Smyrna.—City voted \$15,000 bonds to erect grammar school; J. W. McGill, Chrmn., and T. L. Hamby, Secy. Board of School Comms.

Ky., Ballardville.—Oldham County Board of Education, J. W. Selph, Supt., Lagrange, Ky., receives bids until March 31 to erect 3-room school building; plans and specifications at office superintendent, and John H. Thomas, Archt., 212 Keller Bldg., Louisville.

Ky., Carrollton.—Carrollton Board of Education receives bids until March 26 to erect graded school; plans and specifications at office W. C. Darling, Secy. Board of Education, Carrollton, and at office Manley & Young, Archts., Strand Theater Bldg., Lexington, Ky. (Lately noted to have voted \$25,000 school bonds.)

Ky., Winchester.—Kentucky Wesleyan College is considering erecting girls' dormitory.

La., Clinton.—School Dist. No. 10 will issue \$10,000 school building bonds; C. W. Ball, Prest. East Feliciana Parish School Board, Clinton.

Miss., Moselle.—Jones County Board of Supervisors will issue \$8000 bonds to erect and equip schools in Moselle Public School Dist.

Miss., Oak Ridge.—See Miss., Vicksburg.

Miss., Olive Branch.—W. D. Gooch, Olive Branch, receives bids until April 13 to erect De Soto County Agricultural School; plans and specifications at office Mr. Gooch as above.

Miss., Purvis.—Lamar County Suprs. will issue \$20,000 bonds to erect administration and academic building for Agricultural High School.

Miss., Redwood.—See Miss., Vicksburg.

Miss., Vicksburg.—J. D. Laughlin, Chancery Clerk of Warren County, receives bids until Apr. 6 to erect schools at or near Redwood, at or near Oak Ridge and about 2 mi. south of Vicksburg; bidders to submit bids on each building separately, also collectively; plans and specifications at office Mr. Laughlin.

Mo., Queen City.—Queen City School Dist. voted \$9000 bonds to erect lately noted addition to school; about 35x55 ft.; brick; wood floors; electric lights; cost \$7500; steam heat (addition to present plant), \$600; will let contract to Applegate Bros., Queen City. Address W. H. Funk, Secy. School Board. (See Machinery Wanted—Building Materials, Heating, Plumbing.)

Mo., Plattsburg.—Plattsburg School Dist., F. M. Riley, Secy., voted \$35,000 bonds to erect high school.

N. C., Fuquay Springs.—Fuquay Springs and Cardenas Consolidated School District voted \$15,000 bonds to be supplemented by \$5000 by Wake County Board of Education, Raleigh, N. C., to erect graded school. (Lately noted.)

N. C., Kinston.—Kinston School Board will erect elementary school; 12 rooms; brick; direct-indirect radiation; city lighting; cost \$20,000; bids opened about June 10 and construction begins about June 15. Address J. W. Goodson, Chrmn.

N. C., Weaverville.—City votes April 24 on \$17,000 bonds to erect school building. Address The Mayor.

Okla., Blackwell.—City voted \$85,000 bonds to erect junior high school, 2 other schools and addition to another school. Address City Board of Education. (Lately noted.)

Okla., Enid.—City votes April 2 on \$50,000 bonds to erect addition to high school. Address Board of Education. (Lately noted.)

Okla., Kingfisher.—City defeated \$75,000 bond issue to erect grade and junior high school and repair ward schools. (Lately noted.)

Okla., Marietta.—Board of Education will erect \$40,000 high school; election will be called to vote on bonds.

Okla., Norman.—Legislature appropriated \$525,000 to erect 4 buildings for University of Oklahoma as follows: Geology building, \$100,000; one wing of new library, \$75,000; auditorium, \$150,000; all on university campus; hospital for Medical School in Oklahoma City, \$200,000.

Okla., Oklahoma City.—City Board of Education, Rev. E. T. Lane, Prest., ordered vote Apr. 3 on \$500,000 school bonds.

Okla., Prague.—School Dist. No. 103, Lincoln County, has plans by Hawk & Parr, Security Bldg., Oklahoma City, for high school; brick; tar and gravel roof; wood floors; cement sidewalks; cost \$12,000 to \$13,000; steam heat about \$2000; bids opened about Apr. 15. Address Archts. (Lately noted.)

Okla., Red Fork.—School Dist. No. 28 has plans by Cross & Co., Tulsa, for schools; 8 classrooms, auditorium and manual training department; brick; tile roof; 130x80 ft.; pine floors; cost \$40,000; fan system heating and ventilators, \$6000; date opening bids not set. Address C. C. Brooks, Clerk School Dist. No. 28, Red Fork. (Lately noted.)

S. C., Chesterfield.—Chesterfield School Trustees will erect 8-room school addition; brick; metal roof; pine floors; electric lights; cost \$5000; other details not determined. Address W. P. Odom, Chrmn. Board of Trustees. (Lately noted.)

S. C., Clinton.—City is having plans prepared by Casey & Fant, Anderson, S. C., for \$27,500 school for which bonds were voted. (Previously noted.)

Tenn., Collegedale.—Southern Junior College, Ooltewah, Tenn., will erect girls' dormitory; 150x35 ft.; 3 stories and basement; frame; asphalt shingle roof; wood floors; steam heat; electric lights; cost \$20,000; W. H. Gorlich, Bldg. Supt. on the grounds; construction, mostly by college force, begins Apr. 1. (Lately noted.)

Tenn., Gibson.—School Trustees will erect \$10,000 school building.

Tenn., Knoxville.—Legislature passed bill providing for issuance of \$1,000,000 bonds to erect buildings, liquidate debt and for maintenance of University of Tennessee; Tom C. Rye, Governor, Nashville, Tenn.

Tenn., Memphis.—Board of Education, A. A. Kincannon, Supt., will erect \$60,000 to \$70,000 building for Roszell School; \$325,000 bonds recently issued.

Tenn., Nashville.—George Peabody College will erect Carnegie library; \$180,000 available.

Tenn., Trenton.—City will vote on \$50,000 bonds to erect high school building. Address The Mayor.

Tenn., Yorkville.—School Board will erect 2-story school building; cost \$10,000.

Tex., Bartlett.—City voted \$12,000 public school bonds and \$3000 city hall bonds. Address The Mayor.

Tex., Brownwood.—City has plans by Sanguinet & Staats, Houston, for high school; brick; fireproof; roofing not decided; reinforced concrete and wood floors; steam heat; cost \$70,000; contract let Mch. 29. Address City Manager. (Previously noted.)

Tex., China Springs.—China Springs Ind. School Dist. Trustees, W. N. Foster, J. N. Talbert, D. B. Hill and others, plan election on \$12,000 bonds to erect and equip school.

Tex., Kirbyville.—City will soon erect school building to accommodate 500 or 600 pupils; no details arranged. Address President Board of Trustees. (High School building lately noted burned at loss of \$8000.)

Tex., Palestine.—Northwest Texas Christian Convention has plans by Jas. L. Randolph, 5 Grove St., Palestine, for lately noted academic hall and girls' dormitory; 40x54 ft.; frame; wood shingle or metal roof; wood floors; considering heaters and steam and hot-air systems; lamps and electric lights; cost \$5000. Address architect. (See Machinery Wanted—Building Materials; Electrical Equipment; Heating Plant.)

Tex., Pecos.—Pecos Ind. School Dist. votes April 7 on \$13,000 bonds to remodel and enlarge school building; W. A. Hudson, Secy. School Board.

Tex., Runge.—School Board has plans by C. H. Page & Bro., Austin, and receives bids until Apr. 3 (change of date) to erect high school, including plumbing, heating and wiring; semi-fireproof; plans from Archts. as above. (Lately noted.)

Tex., Sour Lake.—City voted \$80,000 bonds to erect brick school building. Address The Mayor.

W. Va., Cameron.—Cameron Dist. Board of Education will call election on \$25,000 bonds to erect 6-room addition to Central school building.

W. Va., Kenova.—Ceredo Independent School Dist. votes Apr. 21 on \$60,000 bonds to acquire site, erect and equip school building; H. L. Stone, Secy. Board of Education, Kenova. (Previously noted.)

W. Va., Milton.—Board of Education plans to erect high-school building.

W. Va., Moundsville.—School Board selected Edward B. Franzheim, Wheeling, W. Va., to prepare preliminary plans for high school,

for which bond issue is contemplated. Address The Mayor. (Lately noted.)

W. Va., West Liberty.—State Board of Control, Charleston, W. Va., receives new bids until April 6 to erect dormitory at State Normal School; ordinary brick construction; composition roof; 56.10x181.10 ft.; 2 porches, 11.10x30.8 ft. and 8.6x37.8 ft.; F. F. Faris, Archt., Wheeling, W. Va.; J. S. Lakin, Prest. Board, Charleston. (Lately noted.)

STORES

Ala., Albany.—Frank G. Cook, 510-12 Second Ave., will erect lately noted store building; 50x100 ft.; brick; metal roof; wood floors; sidewalk prism; electric or water motor elevators; construction begins Apr. 1; cost \$10,000. (See Machinery Wanted—Building Materials; Elevators; Sidewalk Lights; Metal Ceiling; Roofing; Steel Girders and Columns; Plate Glass.)

Ala., Foley.—Sunny South Development & Distributing Co., Inceptd. with \$50,000 capital by Wm. F. Stelk and others, will erect residence; 2 stories; 50x80 ft.; brick.

Ala., Haleyville.—Dreyer Bros. will erect 1-story business building; 50x100 ft. (2 sections 25x100 ft.); brick; metal or other fireproof roof; wood floors; flues for stoves; city electric lights; plans by owner; no contract let, to be built by supervision; cost \$3500.

Ala., Northport.—J. C. Persons and Samuel F. Clabaugh plan to erect building at Broad and 22d Sts.

Ala., Northport.—Rosenau Co. will soon let contract to erect office and store building. (See Bank and Office.)

Ark., Mulberry.—Counts Bros. will erect brick business building to be occupied by J. L. Jacobs, Vian, Okla.

D. C., Washington.—Washington Gas Light Co. has plans by L. H. Russell, 3916 New Hampshire Ave. N. W., Washington, to remodel building; estimated cost \$28,000.

Ga., Atlanta.—F. L. Fleming will erect wholesale building; 4 or 5 stories; fireproof; definite plans not determined; cost \$25,000.

Ga., Columbus.—Sol Loeb is having plans prepared by T. W. Smith & Co., Murrah Bldg., Columbus, for 2 store buildings; 2 stories and cellar; 73.6x130 ft.; press brick; terra-cotta and plate-glass fronts; furnace heat; tin roofs; electric elevators; cost \$35,000; will let contracts March 28. (Lately noted.)

Ky., Whitesburg.—L. Wilson Fields is reported interested in erection of fireproof business building; cost \$40,000.

La., Hammond.—N. H. Williams has plans by and will let contract to Albert Tolle, Hammond, to erect store and office building; 25x72 ft.; brick; Barrett specification roof; cement floors; cost \$5000; construction begins Apr. 23.

La., New Orleans.—H. A. Wood will expend \$3900 to erect addition to store building.

Mo., Kansas City.—Alex Camp will erect 1-story brick store; cost \$10,000.

Md., Baltimore.—Geo. R. Morris, Title Bldg., and others will erect building to contain stores on first floor. (See Bank and Office.)

Mo., Kansas City.—M. E. Ditzler will erect store building; 1 and 2 stories; cost \$10,000.

Mo., Kansas City.—F. E. Cummings will erect 1-story brick store building; cost \$12,000.

Mo., St. Louis.—Wm. Keane Estate will erect 1-story store; cost \$7000.

Mo., St. Louis.—F. C. Krueger will erect 2-story store and tenement; cost \$3000.

Okla., Bristow.—Ed Abraham has plans for store, office and bank building. (See Bank and Office.)

Okla., Miami.—W. B. Schmucker will erect opera-house with stores on first floor. (See Theaters.)

Okla., Muskogee.—W. L. Hoffman will erect business building; cost \$2900.

Okla., Muskogee.—H. Vogel will erect store building; cost \$3700.

Okla., Tulsa.—William Stryker will erect 3-story brick store building and rooming-house; cost \$28,000.

Okla., Tulsa.—McMann Oil Co. is reported to erect \$50,000 store and office building; 3 stories with foundation for 6 stories; stores on first floor; upper floors for offices.

S. C., Greenville.—J. B. Rasor will erect office and store building. (See Bank and Office.)

Tex., Dallas.—Alex Camp has plans by F. J. Woerner, Dallas, for seven 1-story store buildings; 130x60 ft.; brick; cost \$14,000.

Tex., El Paso.—G. Zork will erect 3-story

structure; first floor for 3 stores; upper, for hotel; cost \$30,000.

Tex., El Paso.—McGregor & Henger will erect business building; 3 stories; first floor for stores; upper floor for hotel; reported cost \$69,000.

Tex., San Antonio.—D. J. Woodward will erect \$3500 store building.

Tex., San Antonio.—E. Hertzberg Jewelry Co., 121 E. Houston St., will enlarge store; remove partitions and connect with adjoining store, providing 40-ft. frontage, construct mezzanine floor, install vault 6x20 ft.; equip second floor for manufacturing.

Tex., San Antonio.—W. N. Hagy, 207 Frost Bldg., is architect for 2 store buildings at Main Ave. and Girard St. and S. Flores and Sweet Sts.; 50x58 ft. and 90x100 ft.; respectively; brick and tile walls; plate-glass fronts; composition roof; cement floors.

Tex., Waco.—Walter G. Lacy will erect building at 114-20 S. 9th St., to be occupied by Willard Storage Battery Co. and Southern Welding Co.; brick; 80x160 ft.

Tex., Waco.—George V. Rotan for Edward Rotan, is having plans prepared by Ross & Cason, Waco, for store building; 2 stories; 50x100 ft.; concrete construction; gravel roof; concrete floors; gas steam radiators; cost \$25,000; bids opened about Apr. 1. Address architects. (See Machinery Wanted—Heating.)

W. Va., Ashland.—Mayor Salisbury, Huntington, W. Va., and John Kobs are reported promoting company to erect store and hotel building. (See Hotels.)

W. Va., Clarksburg.—Carmichael Candy Co. acquired Annex Hotel and will erect 2-story brick and cement wholesale building at rear; 50x85 ft.; electric elevator; cost \$6000.

W. Va., Dunbar.—Dunbar Plumbing Co., G. A. Thompson, Prop., will erect brick business building.

W. Va., Dunbar.—J. M. Byrne, Jr., will erect store and office building; 2 stories; brick; lower floor, stores; upper floor, offices.

THEATERS

D. C., Washington.—Marcus Loew, New York, and Walter Brownley, 1203 G St. N. W., Washington, are having plans prepared by Thos. W. Lamb, 644 8th Ave., New York, for theater at 13th and F Sts. N. W.; Mr. Lamb wires Manufacturers Record: "Theater plans not yet completed; building will be fireproof; seating approximately 3000." Will also remodel and enlarge moving-picture theater at 12th and F Sts., increasing seating capacity to 2500.

Okla., Miami.—W. B. Schmucker will erect opera-house; 2 stories; 50x120 ft.; brick and concrete; gravel and asphalt roof; reinforced concrete floors; steam heat; auditorium and balcony to seat 1000; basement for dressing-rooms and heating apparatus; 2 storerooms on first floor; cost \$15,000; J. W. Roberts, Archt., Tulsa; construction by owner begins Apr. 1.

WAREHOUSES

Fla., Wade City.—Sunny Brook Tobacco Co., G. B. Massey, Gen. Mgr., will erect brick addition to 3-story packing-house for work-room.

Ga., Douglas.—Georgia Tobacco Warehouse, Inc., has plans by R. N. McEachern for tobacco sales warehouse; 80x180 ft.; frame; standard composition roof; heavy board floors; cost \$5000; bids opened about April 15 and construction begins about April 20. Address J. L. Young. (Lately noted.)

Md., Baltimore.—Eisenberg's Underselling Store will erect 5-story and basement warehouse addition on Fayette St.; 25x65 ft.; mill construction; slag roof; following contractors estimating: Edward Brady & Sons, 111-13 Cathedral St.; Morrow Bros., 1201 Fidelity Bldg.; Consolidated Engineering Co., 243-55 Calvert Bldg.; West Construction Co., Knickerbocker Bldg.; D. M. Andrew Co., Mt. Vernon Ave. and 26th St.; C. L. Stockhausen Co., Marine Bank Bldg.; all of Baltimore; Smith and May, Archts., 1131 Calvert Bldg., Baltimore. Bids opened Mch. 22.

Mo., Kansas City.—Maxwell Motor Car Sales Corporation will erect warehouse; 4 stories; cost \$176,000.

Okla., Drumright.—McRay Produce Co. will erect warehouse and salesroom; brick and steel; cost \$12,900.

Va., Richmond.—L. Rose & Co. will expend \$12,000 to convert building on Lester St. into warehouse; Fred Steinhelmer, Mgr.

BUILDING CONTRACTS AWARDED

APARTMENT-HOUSES

Fla., Daytona Beach.—W. L. Miller will erect apartment-house on Grandview Ave.; Messrs. Tudors, Contrs., St. Augustine, Fla.

Ga., Atlanta.—Mrs. Dorothy B. Nicholes let contract to H. W. Nicholes & Sons, Atlanta, to erect 2-family brick-vener flat; cost \$6000.

Tenn., Memphis.—R. R. Ferrell let contract to erect store and apartment building. (See Stores.)

Tex., El Paso.—E. L. Peyton has plans by and let contract to Ramey Bros., El Paso, to erect 2 Mexican tenements; 25x120 ft.; brick and frame; tar and gravel roof; pine floors; cost \$6500; construction begins March 20. (Lately noted.)

ASSOCIATION AND FRATERNAL

Ga., Augusta.—Masonic Temple Building Co. let contract to H. J. Carr & Co., Atlanta, to erect store, office and fraternal building; 77x160 ft.; reinforced concrete and tile; Barrett specification roof; concrete joist and tile floors; cost \$141,000; direct radiation steam heat, \$9000; G. Lloyd Preacher, Archt., Augusta. (Lately noted.)

La., New Orleans.—John Thatcher & Son, 60 Park Ave., Brooklyn, N. Y., general contractors at \$288,285 to erect Elks' Home, let following subcontracts: Plumbing and heating, C. C. Hartwell Co.; electric work, Douglas Electric Construction Co.; brick work, J. J. Swiler; plastering, H. W. Bond; concrete, W. T. Carey; pile and excavation, Thomas Carey, Jr.; shoring, Abry Bros.; face-brick work, Frank Bethune; marble floor, J. T. Mann; waterproofing, D. D. Mevin; sheet-metal work, Enterprise Sheet Metal Works; ornamental iron, J. De Tarnowsky; painting, John T. Pender; timber, Delta Lumber Co.; tiling, Southern Tile Co.; paving, Peter Schaff; stone and marble work, Albert Weiblen Marble & Granite Co., all of New Orleans; glazing and sidewalk lights, Pittsburgh Plate Glass Co., Pittsburgh, Pa.; structural steel, Virginia Bridge & Iron Co., Roanoke, Va.; roofing, Philip Carey Mfg. Co., Lockland, O.; millwork, Carolina Portland Cement Co., Charleston, S. C.; considering bids of Otis Elevator Co., New York, and American Elevator Co., St. Louis, for elevators; plans by Toledano, Wogan & Bernard, New Orleans, call for 3 stories; about 100x100 ft.; concrete frame; brick walls; fireproof; 4-ply built-up asbestos roof; Bedford stone; terra-cotta front; steam heat, \$40,000; electric lights, \$12,000; concrete sidewalks, \$700; electric elevators. (Lately noted.)

N. C., Winston-Salem.—B. P. O. E. let contract to Fogle Bros. Co., Winston-Salem, to remodel brick dwelling for clubhouse. (Previously noted.)

Va., Alexandria.—Oriental Lodge No. 6 Knights of Pythias, let contract to W. L. Martin, Sr., Alexandria, to remodel building at 319 Cameron St. for Pythian Temple.

BANK AND OFFICE

D. C., Washington.—Commercial National Bank, 14th and G Sts., let contract to American Bridge Co., Pittsburgh, for 500 tons steel for construction of bank building at present site; plans by Waddy B. Wood, 316 Connecticut Ave. N. W., Washington, call for 11 stories; 75x100 ft.; lower floor for banking quarters; upper floor, offices. (Lately noted.)

Ga., Augusta.—Masonic Temple Building Co. let contract to erect office, store and fraternal building. (See Association and Fraternal.)

Ga., Macon.—Citizens & Southern Bank, B. B. Clarke, V.-P., will, it is reported, let following contracts for remodeling building: General contract, Wm. H. Fissell Co., 1133 Broadway, New York; elevator, Otis Elevator Co., New York; installing 2 new vaults, Mosler Safe Co., Canton, Ohio.

Md., Baltimore.—Standard Oil Co., Thomas Goodwillie, Local Supt., Pratt and Commerce Sts., let contract to J. Henry Miller, Inc., Eutaw and Franklin Sts., Baltimore, to erect office building at Canton; plans by company's architect call for 3-story structure; 6x75 ft.; brick and concrete; estimated cost \$40,000. (Previously noted.)

Mo., St. Louis.—University Club Building Co. let contract to erect clubhouse and office building. (See Miscellaneous Structures.)

Mo., St. Louis.—Seventeenth Street Realty Co. let contract to Murch Bros. Construction Co., 1555 Railway Exchange Bldg., St. Louis, to erect loft building at Seventeenth & Locust Sts.; 9 stories; 55x155 ft.; reinforced

concrete construction; terra cotta trim; 2 electric elevators; cost \$200,000; steam heat \$11,000; A. B. Groves, Archt., Stock Exchange Bldg., St. Louis. (Lately noted.)

S. C., Beaufort.—E. M. Epstein let contract to erect theater and office building. (See Theaters.)

S. C., York.—Mrs. S. M. McNeel let contract to erect store and office building. (See Stores.)

Tenn., Elizabethton.—Holston National Bank let contract to E. L. Edens, Elizabethton, to erect bank building; 32½x100 ft.; brick; metal roof; tile floors; cost \$10,000; C. B. Kearfott, Archt., Bristol, Tenn. (Lately noted.)

Tenn., Nashville.—H. P. Jacobs, Nashville, has contract to repair 9 rooms of Independent Life Bldg. lately noted damaged by fire; loss \$3470.

CHURCHES

Miss., Greenwood.—Jewish Congregation let contract to Humphries & McGinnis, Greenwood, to erect synagogue at Washington and Williamson Sts.; cost \$20,000.

N. C., Kannapolis.—Kimball Memorial Evangelical Church let contract to Brown Bros., Kannapolis, to erect building; 48x72 ft.; brick; slate roof; rift pine floors; hot-air heat; electric lights; cost \$10,000; Louis H. Asbury, Archt., Charlotte, N. C. (Lately noted.)

Miss., Cleveland.—Baptist Congregation, Rev. R. M. Boone, Pastor, let contract to M. J. Bozeman, Cleveland, to erect building; 65x65 ft.; ordinary construction; asphalt shingle roof; pine floors; hot-air heat; electric lights; cost \$9000; J. E. Greene, Archt., 508 American Bldg., Birmingham, Ala. Address contractor. (Lately noted.)

Tex., Cleburne.—Main Street Methodist Church let contract to J. R. Walls to repair building damaged by storm

Va., Harrisonburg.—United Brethren Church let contract to R. N. McCulloh & Co., 120 E. Lexington St., Baltimore, for stone work on building; stone construction; Port Deposit granite facing; slate roof; wood floors; electric lights; construction by owner under superintendent; J. W. Woltz, Archt., Waynesboro, Pa.

Va., Portsmouth.—St. Paul's Catholic Church will erect building for Sisters of Charity; 3 stories; brick; fireproof; cost \$15,000; R. K. Revell, Contr., Portsmouth.

CITY AND COUNTY

Okl., Woodward.—Convention Hall.—City, Peter Martinson, Mayor, let contract to R. M. Crissman, Alva, Okla., to erect municipal convention hall; 153x68 ft.; reinforced concrete balconies; brick and stone; pitch, gravel and tile roof; yellow pine, maple and concrete floors; cost \$40,000; also let contract to B. L. Hutchinson, Oklahoma City, for direct steam heat; Hawk & Parr, Oklahoma City. (Lately noted.)

Tex., Fort Worth.—Jail.—Tarrant County Commrs. let contract to Southern Structural Steel Co., San Antonio, for steel to be used in construction of jail and criminal court building for which Taylor Building Co., Fort Worth, has general contract; Acme Brick Co. has contract for brick; plans by Sanguiet & Staats, Fort Worth, call for structure 70x136 ft.; reinforced concrete, brick and stone; composition roof; reinforced concrete floor; cost \$228,400; steam heat, \$17,000; Otis elevator, \$8000. (Lately noted.)

Tex., Houston.—Warehouse.—City let contract to American Construction Co., Houston, to erect warehouse 425x700 ft.; concrete; composition roof; concrete floors; electric lights; cost \$300,000; plans by E. E. Sands, City Engineer, Houston. (Lately noted.)

DWELLINGS

D. C., Washington.—Dr. Carl Henning let contract to W. L. Turner, 412 Q St. N. W., Washington, to erect 2-story dwelling at 3105 Ellicott St. N. W.; cost \$10,000; B. F. Meyers, Archt., 723 Bond Bldg., Washington.

D. C., Washington.—Ernest G. Walker has plans by M. G. Lepley, 1406 G St. N. W., and let contract to B. Inzer, 311 H St. N. W., both of Washington, to erect dwelling at 41 H St. S. W.; cost \$7500.

D. C., Washington.—Mrs. L. E. Stanford let contract to W. E. Hamilton, 2524 Conduit Rd. N. W., Washington, to erect dwelling 5406 Conduit Rd.; cost \$3500.

D. C., Washington.—Stella H. Stapleton let contract to C. A. Langley, 310 12th St. N. W., Washington, to erect addition to dwelling 1617 Massachusetts Ave. N. W.;

cost \$6800; Clarke Waggaman, Archt., 1211A Connecticut Ave. N. W., Washington.

Fla., Pensacola.—Frank E. Wells let contract to S. F. Fulghum & Co., Pensacola, and Macon, Ga., to erect \$10,000 residence.

Fla., Pensacola.—D. R. Saunders let contract to S. F. Fulghum & Co., Pensacola and Macon, Ga., to erect \$4000 to \$5000 residence.

Fla., Pensacola.—C. Thiesen let contract to S. F. Fulghum & Co., Pensacola and Macon, Ga., to erect \$10,000 residence.

Fla., St. Petersburg.—D. F. Gregory let contract to erect 10 dwellings; 4 rooms and bath.

Fla., Tampa.—Manuel Leibovitz let contract to erect store and dwelling. (See Stores.)

Ga., Cedartown.—Cedartown Cotton & Export Co. let contracts as follows to erect 19 dwellings: Artope & Son to erect 3 dwellings for foremen; Jesse Mann, 5; H. E. Thomas, 4; W. J. Powell, 2; Simpson & McWhorter, 5; construction under supervision of C. F. Duke & Son, Anniston, Ala. (Previously noted.)

Ga., Valdosta.—R. C. Stapler let contract to W. E. Booth, Valdosta, to erect residence; stucco exterior; slate roof; rift pine floors; cost \$6000; Lloyd Greer, Archt., Valdosta.

Md., Howard Park.—J. W. Charles Heil, 3324 E. Baltimore St., Baltimore, has plans by and let contract to John W. Nelson, Raspeburg, Md., to erect residence on Gwynn Oak Ave. near Wayne Ave.; 28x33 ft.; stucco on concrete block; slate roof; oak floors; hot-water heat; cost \$6000. (Lately noted.)

N. C., Asheville.—S. F. Chapman let contract to Carolina Wood Products Co., Asheville, to erect 3 dwellings on Edgemont Rd.; 9 and 8 rooms; cost \$19,500.

N. C., Laurinburg.—D. M. Gillis let contract to erect bungalow on McRae St.

S. C., Anderson.—H. P. Hunter let contract to Townsend Lumber Co., Anderson, to erect residence; 10 rooms; frame; wood shingle roof; rift pine floors; cost \$8000; steam heat, \$850; electric lights, \$200; Casey & Fant, Archts., Anderson. (Lately noted.)

S. C., Charleston.—Mrs. Emma Bohlen let contract to T. W. Worthy, Charleston, to erect 2-story 8-room residence; brick veneer; tin roof; wood joist floor construction; hot-water heat; cost \$6500; D. B. Hyer, Archt., Charleston. (Lately noted.)

S. C., Rock Hill.—Aragon Cotton Mills, Alexander Long, Prest., let contract to Flisk-Carter Construction Co., Greenville, S. C., to erect 75 additional cottages at Aragon village; equipped with water and electric lights; cost about \$60,000.

Tenn., Mooresburg.—Smith Vaughn let contract to Geo. W. Bollinger, Klondike, Tenn., to erect 8-room residence; wood; metal-shingle roof; wood floors; construction begins about May. Address Contr. (See Machinery Wanted—Building Materials; Shingles.)

Tex., San Antonio.—W. D. Syers let contract to J. M. Oldham, 135 Porter St., San Antonio, to erect 3 residences; 38x50 ft.; frame; wood shingle roof; oak and tile floors; cost \$7500. (Lately noted.)

Tex., Vernon.—T. H. Shive let contract to erect \$30,000 residence.

Va., Richmond.—Emil Enders, 300 Brookland Blvd., let contract to N. B. Sheppard, Richmond, to erect residence; 2 stories; ordinary construction; slate roof; hot-water heat; electric lights; cost \$3500.

W. Va., Moundsville.—Albert Rogerson let contract to J. R. Baker, Moundsville, to erect residence; bungalow type; 6 rooms.

GOVERNMENT AND STATE

Ala., Birmingham.—Postoffice.—Treasury Dept., Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., let contract to Charles McCaul Co., Philadelphia, at \$663,623 to erect postoffice; Georgia marble. (Lately noted.)

Fla., De Land.—Postoffice.—Treasury Department, Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., let contract at \$40,200 to Richardson Engineering & Construction Co., Bainbridge, Ga., to erect postoffice; limestone; completion by June 15, 1919. (Lately noted.)

La., Hammond.—Postoffice.—Treasury Dept., Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., let contract at \$41,233 to Geo. A. Shaul, Seneca, Kan., to construct postoffice. (Lately noted.)

N. C., Hillsboro.—Postoffice.—J. S. Spurgeon has plans by and let contract to Harris & Pope, to erect postoffice building; 40x41 ft.; brick; 2 stories; cement sidewalks; cost \$7000. Address Owner.

Tex., Beeville.—Postoffice.—Treasury Dept., Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., let contract at \$41,124 to Algernon Blair, Montgomery, Ala., to erect postoffice; limestone. (Lately noted.)

HOTELS

Ark., Pine Bluff.—W. T. Hill let contract to erect hotel; 2 stories; brick; fireproof; 40 rooms; also two 1-story brick buildings for store and livery stable; cost \$15,000.

MISCELLANEOUS

D. C., Washington.—Washhouse.—Washington Steel & Ordnance Co. let contract to McKay & Morris, 1336 G St. N. W., Washington, to erect toilet and washhouse; cost \$5000.

Ky., Louisville.—Home.—St. Joseph's Orphan Home let contract to John Tobe, Louisville, to erect two 2-story brick additions; cost \$41,000. (Lately noted.)

Md., Baltimore.—Studio.—Emily and Anna Cowman let contract to Herbert & Prodoehl, 431 Munsey Bldg., Baltimore, to remodel building at 16 W. Lexington St., to be occupied by David Bachrach, photographer; brick and timber; wood floors; electric wiring; electric elevator; cost \$5700; Louis Levi, Archt., Munsey Bldg., Baltimore. (Lately noted.)

Mo., St. Louis.—Clubhouse and Office Building.—University Club Building Co. let contract to Selden-Breck Construction Co., Fullerton Bldg., St. Louis, to erect clubhouse and office building; 13 stories; fireproof; steel and concrete construction with exterior of terra cotta, stone and brick; Florentine Renaissance style; 8 stores on ground floor; 2d to 9th, inclusive, for offices; remaining 4 floors for University Club; cost \$525,000; Eames & Young, Wright Bldg., and Guy C. Mariner, Chemical Bldg., both of St. Louis, Associate Archts. (Lately noted.)

Okl., Oklahoma City.—Clubhouse.—Lake-side Country Club let contract at \$11,788 to J. W. Van Meter, Oklahoma City, to erect clubhouse; 2 stories; 120x180 ft.; rustic style; Layton & Smith, Archts., Majestic Bldg., Oklahoma City. (Previously noted.)

RAILWAY STATIONS, SHEDS, ETC.

Ark., Helena.—Yazoo & Mississippi Valley R. R., A. S. Baldwin, Ch. Engr., Chicago, let contract to Leyden & Ortseloff Co., Chicago, to erect depot; 2 stories; brick; tile roof; timber floors; hot-water heat; electric lights; concrete sidewalks; passenger section, 41x96 ft.; freight extension, 33x182 ft.; cost \$55,000. (Lately noted.)

Va., Roanoke.—Norfolk & Western Ry., J. E. Crawford, Chief Engr., let contract to John P. Pettyjohn & Co., Lynchburg, Va., to erect freight station; 2-story brick freight office, 50x140 ft.; freight warehouse, 55x740 ft.; steel and wood construction, with wide rolling steel doors; Barrett roof; freight-house floor Mastie wood block and concrete; hot-water heat; 2 covered transfer platforms, 18x300 ft., these with freighthouse to provide placing 127 cars at one time, ultimate plans include provision for 40 cars additional; cost \$175,000; total cost of improvements estimated at \$380,000. (Previously noted.)

SCHOOLS

Ark., Little Rock.—L. Collamore, Little Rock, general contractor to erect junior high school, let following sub-contracts: Plaster, Tom Murphy; painting, Parr & Hall; millwork, Cochran & Foster; marble and tile, Southwestern Tile Co.; metal work, Haley & Hornbrook; algonite and cut stone, Superior Builders Supply Co.; heating and plumbing (at \$55,963), M. B. Sanders; all of Little Rock; reinforcing, H. J. Widmer; structural steel and iron, Eagle Iron Works; both of St. Louis; 120x180 ft.; 3 stories; reinforced concrete; tar and gravel roof; concrete, tile and wood floors; fan system steam heat; electric lights; cost \$112,000; Theo. M. Sanders, Archt., Little Rock. (Lately noted.)

D. C., Brookland, Ind. Sta. Washington.—Catholic University let contract to R. P. Whitty Co., 412 Union Trust Bldg., Washington, to erect Sisters' Home; concrete and hollow tile; tile roof; 2 stories; 85x30 ft.; cost \$20,000. (Lately noted.)

D. C., Washington.—Immaculate Conception Academy, 8th and Q Sts. N. W., let contract to Martin & Brown to erect addition for dormitory and chapel; brick; 3 stories and basement; tin roof. (Lately noted.)

Md., Chevy Chase.—Montgomery County Commrs. let contract to erect schools at

Kensington and Chevy Chase. (See Md., Kensington.)

Md., Kensington.—Montgomery County Commrs. let contract to Roy W. Poole, Frederick, Md., to erect schools at Kensington and Chevy Chase, Md.; 6 rooms and 8 rooms, respectively; cost \$37,000; Kepner & Smith, Architects, Frederick. (Lately noted.)

Miss., Columbus.—School Board let contract to H. C. Terry, Columbus, to erect structure; brick; stone trimming; Barrett specification roof; joist floor construction; basement and stairs concrete; upper floors wood; steam heat; cost, complete, \$60,000; separate bids for plumbing, heating and electric wiring opened Apr. 10; P. J. Krouse, Architect, Meridian, Miss. (Lately noted.)

N. C., Monroe.—School Trustees let contract to erect high school.

Tenn., Clarksville.—School Board let contract to D. M. Crawford Co., Memphis, to erect high school to replace burned structure; cost \$25,000; C. K. Colley, Architect, Nashville. (Lately noted.)

Tex., West.—St. Mary's Catholic School let contract to Rabe Wilson, Mart, Tex., to erect school; 50x73 ft.; 2 stories; brick; Scott's tin roof; wood floors; ordinary heaters; electric lights, wiring roughed in; cost \$12,836; Birch D. Easterwood, Architect, Waco; construction begins by April 1. (Lately noted.)

Tex., Waxahachie.—Caddo Construction Co., McKinney, Tex., general contractor to erect school, let following sub-contracts: Millwork, Buell Planing Mill Co.; blackboards, C. A. Bryant Co.; both of Dallas; reinforcing steel, Trussed Concrete Steel Co., Youngstown, Ohio; structural steel, Alamo Iron Works, San Antonio, Tex.; stone, Waco Art Stone Co., Waco, Tex.; roofing and sheet metal work, Shore's Tin Shop, Waxahachie; plans by C. H. Page & Bro., Austin, call for structure 120x75 ft.; 3 stories; fireproof frame; Barrett specification roof; concrete floor with wood top; cost \$62,000; heating and plumbing, \$17,500; conduit lighting system, \$1850. (Lately noted.)

STORES

D. C., Washington.—Carl Jaeger, 908 12th St. N. W., let contract to H. Muller to remodel building.

Fla., Tampa.—Manuel Leibovitz let contract to Logan Bros., Tampa, to erect store and residence; 2 stories; brick; cost \$11,000; Bonfoey & Elliott, Architects, Tampa.

Ga., Augusta.—Masonic Temple Building Co. let contract to erect store, office and fraternal building. (See Association and Fraternal.)

Ga., Macon.—Lamar, Taylor & Riley let contract to T. S. Moudy & Co., Chattanooga, Tenn., to erect store building; 4 stories and basement; press brick and Indiana limestone; cost about \$80,000; T. C. Burke, Macon, representing Concrete Steel Co., Birmingham, Ala., has contract for reinforcing steel; P. E. Dennis, Architect, Macon. (Lately noted.)

Ga., Macon.—Shingler, Cummings & Shingler let contract to S. F. Fulghum & Co., Macon, to erect four 2-story store buildings on Cherry St.; fireproof; 75x110 ft.; reinforced concrete; terra-cotta fronts; tar and gravel roof; steam heat; foundation to permit additional stories; cost \$30,000; T. C. Burk, Macon, has contract for Southern States Portland cement; P. E. Dennis, Architect, American National Bank Bldg., Macon. (Lately noted.)

Ga., Macon.—Charles Wachtel Clothing Co. let contract to W. D. Griffin, Georgia Casualty Bldg., Macon, to remodel and enlarge building; will convert 2 stores into 1, remove partitions; steel beams; iron columns; 18-ft. extension in rear; metal construction front; marquis 8x84 ft.; terra-cotta trim; press brick; cost \$10,000; Hupp & Shelverton, Fourth National Bank Bldg., Macon. (Previously noted.)

Md., Baltimore.—Lemuel T. Cooksey, 1500 Bolton St., let contract to R. H. Frazier, 224 W. Mulberry St., Baltimore, to erect store building; 25x81 ft.; 3 stories; brick; slag roof; wood floors; hot-water heat and electric-light contracts also let; dumb waiter; cost \$11,000; Blanke & Zink, Architect, 833-37 Equitable Bldg., Baltimore. (Lately noted.)

Mo., St. Louis.—University Club Building Co. let contract to erect store, clubhouse and office building. (See Miscellaneous Structures.)

Okla., Checotah.—J. Owen Price let contract to J. H. McCoy, Muskogee, Okla., to erect store building; 2 stories; 40x130 ft.; brick and stone; tar and gravel roof; wood floor; 1½-ton freight elevator; cost \$13,000;

H. O. Valeur & Co., Architects, Muskogee. (Lately noted.)

Okla., Ponca City.—Geo. H. Brett let contract to O. F. Keck to erect store building for farm implements; 50x140 ft.; brick; truss roof with tar and gravel; cement floors; cost \$6500. (Lately noted.)

S. C., Charleston.—P. M. Clement has plans by and let contract to Garner & Burton, 26 Broad St., Charleston, to erect store building; 31x176 ft.; brick; probably Barrett roof; wood floors; gas and electric lights; freight and passenger elevator; cost \$20,000; construction begins about May 1.

S. C., Greenville.—W. C. Cleveland let contract to M. W. Campbell, R. F. D., Greenville, to erect addition to building at McBee Ave. and Main Sts.; brick; tar and gravel roof; pine floors; cost \$4000; construction begun. (Lately noted.)

S. C., York.—Mrs. S. McNeil let contract at \$17,522 to John R. Logan, York, to erect building to replace store and office structure previously noted damaged by fire; also contract to Toomey & Co., Charlotte, N. C., for heating and plumbing; to be occupied by York Hardware Co., Loan & Savings Bank and postoffice; Chas. M. Robinson, Inc., Architect, Richmond, Va.

Tenn., Memphis.—R. R. Ferrell, McLemore and Rayburn Aves., let contract to Chas. H. Sims, Union & Planters Bank Bldg., Memphis, to erect store and apartment building; lower floor, drug store and Piggy Wiggly Store; upper floor, three 5-room flats; 60x55 ft.; 2 stories; solid brick; concrete floors; asphalt roof; hardwood trim throughout flats; individual hot-air heating plant in each store; steam heat for flats; cost \$12,000; steam heat, \$1000; hot-air heat, \$500; McGee & Lester, Architects, Union & Planters Bank Bldg., Memphis.

Tex., Corpus Christi.—Ullmann, Stern & Krause, main office San Antonio, let contract to J. W. Birmingham, Corpus Christi, to erect building; 2 stories; 60x140 ft.; interlocking tile; interior, mill construction; elevator enclosed in fireproof shaft with auto-

matic fire doors; sprinkler system; cost \$20,000; completion within 90 days.

Tex., El Paso.—White House Shoe Store let contract to J. E. Morgan, El Paso, to erect addition to building; 2 stories; cost \$65,000; Trost & Trost, Architects, El Paso. (Previously noted.)

Va., Norfolk.—S. Friedberg, 298-10 E. Pratt St., Baltimore, let contract to R. R. Richardson & Co., Norfolk, to erect building to contain 7 stores; brick and terra cotta; 1 story; foundation to permit erection of 2 additional stories.

THEATERS

Ala., Montgomery.—Estate of N. J. Bell let contract to James Hodgson, Montgomery, to erect moving-picture theater to be known as New Empire Theater; plans by Frederick Ausfeldt, Montgomery, call for structure 105x100 ft.; standard construction; tar and gravel roof; beams, joists and double floors; steam heat; electric lights; cost \$31,000. (Previously noted.)

S. C., Beaufort.—E. M. Epslein let contract to E. G. Clark, Beaufort, to erect office and theater building; 2 stories; brick and steel. (Lately noted.)

Ga., Valdosta.—Mrs. A. Converse let contract to J. N. Deming, Valdosta, to erect theater; press brick front; asbestos roof; steam heat; cost, exclusive of heating, \$9500; Lloyd Greer, Architect, Valdosta. (Previously noted.)

WAREHOUSES

Ga., Rome.—Southern Bell Telephone & Telegraph Co. let contract to W. P. Bradford, to erect warehouse and garage.

Okla., Ponca City.—Geo. H. Brett let contract to erect building for farm implements. (See Stores.)

Tex., El Paso.—Bray & Co. let contract to J. E. Morgan, El Paso, to erect warehouse; 90x120 ft.; cost \$24,000.

Tex., Houston.—City let contract to American Construction Co., Houston, to erect concrete warehouse 425x700 ft. (See City and County.)

MACHINERY, PROPOSALS AND SUPPLIES WANTED

Manufacturers and others in need of machinery or supplies of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery or supplies needed we will make their wants known free of cost, and in this way secure the attention of manufacturers and dealers throughout the country. The Manufacturers Record has received during the week the following particulars as to machinery and supplies wanted.

"WANTS"

Advertising Novelties, etc.—Westerman Remedies Co., 1534 Christy Ave., Louisville, Ky.—Prices on advertising novelties, signs, window displays, fancy posters, etc.

Bakery Equipment.—Chas. H. Sims, 1315 Union and Planters Bank Bldg., Memphis, Tenn.—Prices on bakery equipment.

Bakery Machinery.—See Ventilating Fans, etc.—Bureau Supplies and Accounts.

Beltting.—See Electrical Equipment.—Tompkinsville Light & Ice Co.

Boiler.—Franklin Soapstone Products Corp., Roanoke, Va.—125 to 150 H. P. tubular high-pressure boiler; second-hand, but in excellent condition and good for 125 lbs. steam pressure.

Boilers.—See Compressor (Air), etc.—Bureau Supplies and Accounts.

Boilers.—Alabama Marketing & Canning Co., 2130 Morris Ave., Birmingham, Ala.—Prices on boilers; probably need a number of boilers of small capacity, for canning plants.

Brick Machinery.—W. G. G., Box 353, Alexandria, La.—To correspond with manufacturers of machinery and supplies for brick-manufacturing plant.

Bridge.—Tulsa County Commrs., Lewis Cline, County Clerk, Tulsa, Okla.—Bids Apr. 2 for wrecking, removal, construction of sub-structures, re-erection and furnishing extra spans for bridge across Arkansas River at Sand Springs; plans, specifications, etc., on file at offices of County Engr. and County Clerk.

Bridge Substructure.—Commrs. Iredell County, J. E. Boyd, Chrmn., and Commrs. Catawba County, Osborne Brown, Chrmn., Newton, N. C.—Bids (to be opened April 9) for substructure of Island Ford and Bufalo Shoals bridges across Catawba River; plans and specifications on file offices Register of Deeds, Iredell County (States-

ville), and Catawba County (Newton), and obtainable from State Highway Com. for \$1.

Bridge Substructure.—Newton, N. C.—Bids to be opened Apr. 9 for substructure work on Horsford bridge across Catawba River; plans and specifications on file offices of Register of Deeds, Catawba County (Newton), and Register's office, Caldwell County (Lenoir), and are obtainable from State Highway Com. for \$1; W. J. Harrington, Chrmn. Caldwell County Commrs.; Osborn Brown, Chrmn. Catawba County Commrs.

Building Materials.—W. H. Funk, Secy. School Board, Queen City, Mo.—Prices on new heating boiler, plumbing equipment, brick, etc., for \$7500 school addition.

Building Materials.—T. E. Biddison, 3312 Elgin Ave., Baltimore, Md.—Prices on casing, washboarding, mouldings and trim; also doors and flooring for twenty-four 2-story dwellings to cost \$20,000.

Building Materials.—Jas. L. Randolph, 5 Grove St., Palestine, Tex.—Prices on building materials, electrical equipment and heating plants for \$5000 academic hall and girls' dormitory.

Building Materials.—Geo. W. Bolinger, Klondike, Tenn.—Metal shingles, doors and windows for residence in Mooresburg, Tenn.

Building Materials.—Frank G. Cook, 510-12 2d Ave., Albany, Ala.—Prices on elevators, sidewalk lights, metal ceiling, roofing, steel girders, steel columns, plate glass for \$10,000 store building.

Canning Equipment.—American Real Estate Co., 618 Busch Bldg., Dallas, Tex.—To correspond with manufacturers of canning equipment.

Canning Machinery.—W. H. Hubbard's Executors, Rice, Va.—Prices on canning machinery.

Canning Machinery.—A. H. Mangum & Co., Pageland, S. C.—Data and prices on

machinery, daily capacity 20,000 cans, for canning tomatoes, berries, beans and sweet potatoes.

Cartons, etc.—Lowell R. Gaidry, New Orleans, La.—Addresses of manufacturers of folding boxes or cartons; also of bottle sprinkler tops.

Cars.—See Locomotives, etc.—Merrill B. Parker.

Cars (Mine).—Tarklin Coal Co., Perry Thompson, Mgr., Honaker, Va.—Prices on 1-ton mining cars.

Centrifugal Machines (Laboratory).—Lowell R. Gaidry, New Orleans, La.—Addresses of manufacturers of laboratory centrifugals.

Cereal Factory Equipment.—California Edible Products Co., Edgar M. Hayes, Gen. Mgr., 332 Dutton Ave., San Leandro, Cal.—Prices on cereal manufacturing machinery, including driers; flaking rolls, 18x24, water-cooled; ovens for toasting flaked cereals; granulators; carton sealing machinery; for installation Oakland, Cal.

Church Equipment.—Sterling Fort, Chrmn. Building Com. First Baptist Church, Northern Bank of Tennessee, Clarksville, Tenn.—Bids and samples of pews, chairs and pulpit furniture for \$60,000 church building.

Coal.—Andre Bon, Point-a-Pitre, Guadeloupe.—Names and addresses of exporters of steam coal twice sifted; wants agency.

Coal, Gasoline, etc.—War Dept., Eastern Dept. Headquarters, Governors Island, New York.—Bids, in triplicate, until April 18 to furnish coal, forage and straw, and gasoline (3 months' and a year's supply), and wood, mineral oil, beef and mutton, for Eastern Dept., for year commencing July 1; information on application to Dept. Quartermaster.

Coal.—Office of City Electric Plant, E. W. Trafford, Supt., Richmond, Va.—Bids until March 23 to furnish 1 year's supply (about 1500 tons) of New River run-of-mine steam coal at city electric plant; coal to be delivered by team or truck in boiler-room of plant.

Coal.—W. P. Knowles, Supt. City Gas Works, Richmond, Va.—Bids until March 23 to furnish gas works for 1 year from April 1 with 24,000 net tons best quality gas coal and 5000 tons best quality coal; specifications and proposal forms obtainable from Supt.

Compressor (Air).—See Locomotive, etc.—Merrill B. Parker.

Compressor (Air), etc.—Bureau Supplies and Accounts, Navy Department, Washington, D. C.—Bids until April 10 for delivering muriatic acid, white ash, water-tube boilers, burlap, casting brushes, air compressor, window glass, hardware, etc., sewing machine, packing for condenser tubes, pumps, spruce, and sheet steel at navy-yard, Puget Sound, Wash. Apply for proposals to Navy purchasing officer, Seattle, or to Bureau.

Crane.—Standard Products Co., 140 Fisher Bldg., Chicago, Ill.—5 to 10-ton overhead crane, 3 control, 48-ft. to 60-ft. span, 250-volt. (See Electrical Machinery.)

Crane.—Cambridge Electric Light Co., 4 Blackstone St., Cambridge, Mass.—Crane with 35-ft. boom and ½-ton clam shell bucket, on small platform car with traction wheels, for handling bituminous coal. (Similar to Byers auto crane preferred.)

Crane (Electric Traveling).—Bureau of Yards and Docks, Navy Department, Washington, D. C.—Bids until April 2 to furnish and install 150-ton, two 15-ton, 20-ton and 5-ton electric traveling bridge cranes at navy-yard, Philadelphia, Pa.; drawings and specification (No. 2330) on application to Bureau or to Commandant of navy-yard named.

Crane (Locomotive).—Bureau Supplies and Accounts, Navy Department, Washington, D. C.—Bids until March 27 for delivering locomotive crane, brass screws and stop valves at navy-yard, Portsmouth, N. H. Apply for proposals to supply officer, navy-yard, Portsmouth, or to Bureau.

Crane (Locomotive).—Navy Dept., Bureau Yards and Docks, Washington, D. C.—Bids until April 9 for 2 electrically-operated locomotive jib cranes of 50 gross tons capacity at navy-yard, Norfolk and Philadelphia; plans and specifications (No. 220) on application to Bureau or to Commandants of navy-yards named.

Crane (Shipbuilding).—Bureau Yards and Docks, Navy Dept., Washington, D. C.—Bids until April 9 for shipbuilding crane at navy-yard, Charleston, S. C.; specification (No. 2331) on application to Bureau or to Commandant of navy-yard, Charleston.

Creamery Machinery.—City Ice & Cold

Co. J. G. Repsher, Mgr., Laurel, Miss.—Interested in prices on equipment for creamery.

Crusher.—Ralph R. Lewis Co., 538 Commercial Trust Bldg., Philadelphia, Pa.—No. 7½ McCully or Gates K gyratory crusher.

Crucible Steel Wire, etc.—T. S. Simms & Co., Ltd., Fairville, St. John, N. B., Canada.—Tempered crucible steel wire for making tube, casting and wire brooms, etc.

Derrick.—Fitzgerald-Pennsylvania Oil & Gas Co., 310 Healey Bldg., Atlanta, Ga.—Bids on derrick for 3000-ft. oil well at Fitzgerald, Ga.

Dies.—Union Manufacturing Co., Canton, N. C.—Names and addresses of firms manufacturing (grinding) blanking dies.

Dish-washing Machine.—White Mills Hotel Co., White Mills, Ky.—Prices on dish-washing machine.

Distilling Equipment.—Smith Shackelford, R. F. D. 2, Mutual, Okla.—Small water still for domestic use.

Ditching Machinery.—W. L. Jefferson, Yanceyville, N. C.—Names and addresses of manufacturers of and dealers in machines for ditching low ground, over creeks, for 4 ft. P. down by horses; to cut any depth or clean out.

Doors.—See Building Materials.—T. E. Biddison.

Drainage System.—Directors Bogota Drainage Dist. of Dyer and Obion Counties, Dyersburg, Tenn.—Bids until Mch. 31 to construct drainage system; ditch, 5.6 mi. long; depth, 7 ft.; width, 15.5 ft.; 121,000 cu. yds. excavation; clear 40 acres right of way; information furnished by W. C. Kelly, Engr., Union City, Tenn., and Draper & Rice, Attys., Dyersburg.

Drainage System.—Commrs. Cross County Brush Lake Bayou Drainage Dist. (L. O. Ellis, H. S. Summerloy and R. J. Kipler, Commrs.), Hickory Ridge, Ark.—To let contract March 21 at office of County Court Clerk, Courthouse, Wynne, Ark., to construct drainage system; 838,800 yds. earth excavation; 1 main ditch and 4 laterals; plans, specifications, etc., on file with County Clerk and Newsom Engineering Co. at Wynne, Drainage Commrs. at Hickory Ridge, Ark., and Burr, Stewart & Burr, Attys., Paragould, Ark.

Drainage System.—Commrs. Keo-England Drainage Dist., N. B. Beakley, Chrmn., England, Ark.—Bids until Mch. 22 to construct various ditches: Ditch No. 1—Length 1000 ft., maximum cut 12 ft., excavation 2500 cu. yds.; Ditch No. 2—Length 3900 ft., maximum cut 6½ ft., excavation 6500 yds.; Ditch No. 3—Length 3000 ft., cut 3½ ft., excavation 2600 cu. yds.; all to have 6-ft. base; excavation with teams and scrapers; profiles, etc., on file with Morris & Morris, Attys., England, and Miller Engineering Co., 621 Southern Trust Bldg., Little Rock.

Drain Tile.—McCrady Bros. & Cheves, Civil Engrs., 4 Broad St., Charleston, S. C.—Bids until March 23 to construct 11 mi. of tile drains at Rose Bank Farm, Wadmalaw Island; plans and specifications furnished on application.

Drum (Incline).—Tarklin Coal Co., Perry Thompson, Mgr., Honaker, Va.—Prices on incline drum.

Electrical Equipment.—Tompkinsville Light & Ice Co., Hebron Lawrence, official, Tompkinsville, Ky.—Prices on 30 K. W. dynamo; low speed, direct current, 125 volts, and switchboard; also 35 H. P. crude-oil engine, belting and other material; for rebuilding burned plant.

Electrical Equipment.—N. C. Hines & Co., Cary, N. C.—Prices on electrical equipment "To wire town of Cary."

Electrical Equipment.—See Building Materials.—Jas. L. Randolph.

Electric Light and Power.—Mayor and Aldermen, Kenner, La.—Bids until April 9 for electric lighting for city, and furnishing electric light and power for commercial and residential purposes, etc.; specifications on application to Secy. of City Council.

Electrical Machinery.—Standard Products Co., 1400 Fisher Bldg., Chicago, Ill.—5 to 10-ton overhead crane, 3 control, 48-ft. to 60-ft. span, 250 volt; steam or motor generator set, 100 K. W., 250 volt; small lifting magnet, 25 voltage.

Electrical Machinery.—Wauchula Light & Power Co., E. L. Dunn, Gen. Mgr., Wauchula, Fla.—Prices on new or good second-hand generating units (2), about 100 K. W. each, 23,000 volts, 60-cycle, direct connected to high-speed engines.

Electrical Machinery.—John G. Duncan Co., 308 W. Jackson Ave., Knoxville, Tenn.—

Lowest dealers' prices on 35 H. P., 60-cycle, single-phase, A. C. motors; also 3-phase; also 3 and 5 H. P., 60-cycle, A. C. single-phase and 3-phase motors; all second-hand; immediate delivery.

Electrical Supplies, etc.—Bureau Supplies and Accounts, Navy Department, Washington, D. C.—Bids until March 27 for delivering blacksmiths' anvils, vitrified conduit, glycerine, rubber air hose, hydraulic leather, electrical supplies and cable, and North Carolina pine switch ties at navy-yard, Norfolk. Apply for proposals to supply officer, navy-yard, Norfolk, or to Bureau.

Elevators.—See Building Materials.—Frank G. Cook.

Engine (Hoisting).—See Locomotive, etc.—Merrill B. Parker.

Engine (Oil).—See Electrical Equipment.—Tompkinsville Light & Ice Co.

Engine (Oil).—Geo. E. King, Chief Commissioner, Fellsme, Fla.—Prices on 50 H. P. oil engine; quick delivery.

Engine and Boiler.—Geo. W. Bolinger, Klondike, Tenn.—15 H. P. engine and boiler on skids.

Fire Apparatus.—City of Harlan, Ky.—Bids on fire-fighting apparatus consisting of 500 ft. 2½ single jacket hose with nozzle, on cart; fire ladders, 12, 18 and 24-ft., on

respond with manufacturers of hosiery, mercery, dress shields, pins, etc.; to prepare for trade after war ends.

Ice and Cold-storage Machinery.—Newport Produce Co., Newport, Tenn.—Prices on machinery for cold storage and ice.

Ice-cream Machinery.—French Oil Mill Machinery Co., 615 Empire Bldg., Atlanta, Ga.—Names and addresses of manufacturers of ice-cream manufacturing equipment.

Ice Machine.—Box 2, Belle Meade, Va.—Ice machine of 15 tons capacity; state make, condition, lowest price, etc.

Ice Machinery.—Wauchula Light & Power Co., E. L. Dunn, Gen. Mgr., Wauchula, Fla.—Prices on equipment for ice factory, 7 to 10 tons capacity.

Knitting Machines.—Ellerbe Knitting Mills, J. R. Bennett, Secy.-Treas., Ellerbe, N. C.—50 or more machines for knitting hosiery.

Laundry Machinery.—French Oil Mill Machinery Co., 615 Empire Bldg., Atlanta, Ga.—Names and addresses of manufacturers of steam laundry machinery.

Laundry Machinery, etc.—Bureau Supplies and Accounts, Navy Department, Washington, D. C.—Bids until March 27 for delivering laundry machinery, yellow pine flooring, and repairing and resetting scales at navy-yard, Boston. Apply for proposals

boats; belting; roofing; building and engineering supplies.

Manufacturers Generally.—Petro A. Huertas, Y. P., Popayan, Colombia.—Catalogs (in Spanish), prices, samples, etc., of: Automobiles; auto trucks; accessories for automobiles; films with names in Spanish; shoes and footwear; clothing—outer and under garments; underwear for men, women and children; typewriting machines; carbon paper and ribbon; writing materials; jewelry; firearms; toys; periodical publications in Spanish; beer; conserves in tins; agricultural machinery; motors for boats; aeros; fats; grease; gasoline; electrical goods; electric batteries; combs; tweezers; watches; optical goods; motorcycles; fountain pens; saddlery; small beds; cots; advertising novelties; cotton, woolen and other fabrics; chintzes; percales; cloth; handkerchiefs; cravats and collars; candles and caramels; glassware; hardware; cards; phonographs; photographic cameras; sewing machines; pictures; landscape pictures; religious pictures; prints; type; rubber type; playing cards; toilet articles; combs set with brilliants; notions.

Metal Ceiling.—See Building Materials.—Frank G. Cook.

Motors (Electric).—John G. Duncan Co., 308 W. Jackson Ave., Knoxville, Tenn.—Dealers' prices for immediate shipment on 15, 20 and 25 H. P., second-hand, 60-cycle, 3-phase and single-phase motors; 3-phase preferred.

Ovens and Dryers.—See Cereal Factory Equipment.—California Edible Products Co.

Paper Machinery.—R. V. Barnes, Kittrell, N. C.—Data and prices on machinery to manufacture paper.

Paving.—City of Smithfield, N. C., N. M. Lawrence, Clerk.—Bids until April 6 on 15,000 sq. yds. asphalt, bitulithic or other pavement; 3000 lin. ft. granite curb; 8000 lin. ft. concrete gutter; 3000 sq. yds. sidewalk; grading and drainage, etc.; plans and specifications on file office of Clerk, Smithfield, and of Engr., Durham, and copies of specifications, etc., mailed on application to Engr., Gilbert C. White, Durham, N. C.

Paving.—Baltimore (Md.) Board of Awards, City Hall.—Bids until March 28 to grade, curb and pave various streets included in Contracts Nos. 152 and 153; Contract No. 152 calls for 32,300 sq. yds. sheet asphalt paving; 20,200 lin. ft. armored concrete curb and circles in place; 20,000 cu. yds. grading; Contract No. 153 calls for 16,200 sq. yds. sheet asphalt paving, 9000 lin. ft. armored concrete curb and circles in place; 3400 sq. yds. Hillside brick for paving in railway area; 6700 cu. yds. grading; specifications from Commrs. for Opening Streets, John H. Robinette, Prest., City Hall, for \$5.

Paving and Sewer Construction.—City Commrs., Huntington, W. Va.—Bids until April 2 to grade, curb and pave sections of Second St., Sixth St., Lincoln Pl., Tenth Ave., etc.; also three 12-in. vitrified tile sewers and three 8-in. vitrified tile sewers; plans and specifications on file with A. B. Maupin, City Engr.

Paving.—City of Marietta, Ga., V. B. Waddell, City Clerk.—Bids until April 5 to construct 19,000 sq. yds. street pavement, 6000 sq. yds. sidewalks, 6500 lin. ft. concrete curbing and complete storm drainage system; roadway paving materials to include asphalt, concrete, vitrified brick or other kinds; specifications, etc., obtainable from V. B. Waddell, City Clerk, or Knox T. Thomas, Consult. Engr., Forsyth Bldg., Atlanta, Ga.

Peeling (Potato) Machine.—White Mills Hotel Co., White Mills, Ky.—Prices on potato peeler.

Pipe (Sewer), etc.—W. R. Hart, Shelby, N. C.—Prices on about 9000 ft. 6-in. and 8-in. sewer pipe; 4-in. or 5-in. automatic siphons; manhole covers and rings; cement.

Piping.—See Locomotive, etc.—Merrill B. Parker.

Piping.—John G. Duncan Co., 308 W. Jackson Ave., Knoxville, Tenn.—Dealers' prices on 2000 or 3000 ft. 2 or 3-in. second-hand pipe; immediate shipment.

Plate Glass.—See Building Materials.—Frank G. Cook.

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Flooring.—See Building Materials.—T. E. Biddison.

Galvanizing Plants.—Georgia Shipbuilding Co., Savannah, Ga.—To correspond with manufacturers of equipment for hot galvanizing plants.

Grading (Railroad).—Jerome Moltz, care R. S. Brown, 321 Legal Bldg., Asheville, N. C.—Bids until Mch. 31 (extended date) to grade roadbed on 5½ mi. standard-gauge logging railroad from junction with Southern Ry. at Lake Toxaway to Cold Mountain Gap; separate bids received on trestles and tracklaying; specifications, etc., obtainable for \$10 from Robt. S. Brown, Chief Engr., Legal Bldg., Asheville.

Handles (Wooden).—Union Manufacturing Co., Canton, N. C.—Names and addresses of manufacturers of wooden dinner-pail handles, enamel and plain.

Heating.—See Building Materials.—W. H. Funk.

Heating.—Ross & Cason, Waco, Tex.—Prices on gas steam radiators for \$25,000 store building.

Heating Plant.—See Building Materials.—Jas. L. Randolph.

Hosiery, etc.—Louis Badan, 28 Rue des Allemands, Geneva, Switzerland.—To cor-

to the supply officer, navy-yard, Boston, or to Bureau.

Lime Plant.—J. J. Taylor, industrial and immigration agent Gulf & Ship Island R. R. Co., Gulfport, Miss.—Data on establishment of slack-lime plant, 1000 bbls. daily capacity; cost, etc., including prices on machinery.

Locomotive.—Interstate Clay Co., Sumter, S. C.—Good second-hand 9x14 36-gauge saddle-tank locomotive, Porter or Blake, 1910, 1911 or 1912 model.

Locomotive, etc.—Merrill B. Parker, Mech. Engr., 1912 Oak St., Chattanooga, Tenn.—Second-hand equipment as follows: 9x14-in., 36-in. gauge, saddle-tank locomotive; No. 6 Thew traction steam shovel; 600 ft. of 8-in. cast-iron pipe; carload of 12-lb. rails; 25 tons 35-lb. rails; belted air compressor, 200 to 300 ft. capacity; 4-yd., 36-in. gauge, 2-way side-dump cars; 7x10-in. D. C. D. D. hoisting engine.

Magnets (Lifting).—Standard Products Co., 1409 Fisher Bldg., Chicago, Ill.—Small lifting magnet, 225 voltage. (See Electrical Machinery.)

Manufacturers Generally.—Ferrum Company, Post Box 75, Petrograd, Russia.—To represent manufacturers of: Automobiles and automobile supplies; electric lamps; electrical supplies; wood and iron working machinery; locomotives and railway supplies; gas and water tubes; motors; steam

Plumbing.—See Building Materials.—W. H. Funk.

Pulley.—White Furniture Co., Mebane, N. C.—Double-arm, long-hub, heavy-type, machine-moulded iron pulley, 24-in. face, 50 in. in diam., with 3 7/16 hole milled out for key seats for main line shaft-drive pulley; 32-in. diam. would do; new or second-hand; wire prices and if can ship promptly.

Pump (Underwriters).—Box 904, Reading, Pa.—National standard fire underwriters pump; 1500 G. P. M.; cylinders 20 in. by 12 in. by 16 in.; first-class condition; steam pressure 135 lbs.; water 125 lbs.

Pumps.—See Compressor (Air), etc.—Bureau Supplies and Accounts.

Rails.—John G. Duncan, 308 W. Jackson Ave., Knoxville, Tenn.—Dealers' prices on 20-lb. relay rails.

Rails, etc.—Roy C. Whayne Supply Co., 318 W. Main St., Louisville, Ky.—Minimum carload 30 or 40-lb. relaying rails with splices; Alabama or Southern shipping point preferred.

Rails.—See Locomotive, etc.—Merrill B. Parker.

Rails.—Tarklin Coal Co., Perry Thompson, Mgr., Hoaneker, Va.—Prices on 16-lb. steel rails.

Rails.—F. E. B. O'Brien Co., 41 S. 15th St., Philadelphia, Pa.—Prices on 200 tons 56-lb. relaying rails. State condition and location.

Road Construction.—Hillsborough County Commrs., W. P. Culbreath, Clerk, Tampa, Fla.—Bids April 9 to construct 54 mi. hard-surface roads; for completion of present brick roads to county line, to following counties: Pasco County on north, Polk on east, Manatee on south, and Pinellas on west; plans and specifications obtainable from County Commrs.

Road Construction.—Forrest County, J. K. Denham, Road Commr., Hattiesburg, Miss.—To open bids May 7 on gravel road construction; \$130,000 available; Frank T. Myers, Engr.

Road Construction.—Hays County, Wilson Puckett, Engr., Buda, Tex.—Bids until Mch. 26 to construct 10 mi. of gravel road from Buda to Neiderwald; plans and specifications on file with Engr.

Road Construction.—Good Roads Com. of Road Dist. No. 1, Lauderdale County, J. O. Weiss, Secy., Meridian, Miss.—Bids until Apr. 4 to scarify, reshape, spread new material, sprinkle and roll Causeville Rd., about 45,000 sq. yds.; also to unload from cars and haul to Causeville Rd. (average haul 3 mi.) chert or novaculite, about 4000 tons; for further information address J. T. Pinkston, Engr.

Road Construction.—Norfolk County Com. of Roads and Bridges, care of R. B. Preston, Engr., 401 Commercial Bldg., Portsmouth, Va.—Bids until April 2 to construct Cottage Line Rd., between Ocean View and Cottage Park Station, and Ocean View Blvd., between Lenox and Ocean View; plans and specifications on file at Clerk's office, Portsmouth, and with G. P. Coleman, State Highway Commr., Richmond.

Road Construction.—Knox County Fiscal Court, Read P. Black, Clerk County Court, Barbourville, Ky.—Bids until Apr. 3 on macadam work from Corbin, Ky., to Bell county line, and 3 mi. construction from Barbourville, on south side Cumberland River, to Whitley county line; also separate bids on 3 mi. each construction on Big Richland Rd., Williamsburg Rd., Fighting Creek Rd. and 2 mi. on Bell County Rd., near Flat Lick, Ky.; C. B. Parrott, Barbourville, Ch. Engr.

Road Construction.—Yadkin County Commissioners, E. C. Mayberry, Secy., Yadkinville, N. C.—Bids until Apr. 3 to construct road from Donnaha via Boonville to sand-clay road near Jonesville, and from Crutchfield via Boonville and Yadkinville to Courteney.

Road Construction.—Office State Highway Com., G. P. Coleman, State Highway Commissioner, Richmond, Va.—Bids until March 26 at office of County Clerk, Princess Anne, Va., to construct 2.6 mi. of State-aid sand-clay road between Rosemont and Witch Duck Rds.; plans and specifications on file with County Clerk at Princess Anne and with State Highway Com.; specifications on application to Mr. Coleman.

Road Grading.—T. J. Vermillion & Son, Barbourville, Ky.—To sublet contract to grade about 60,000 yds. in Knox county on State Highway; will let as whole or parts.

Road Maintenance.—State Roads Com., 601 Garrett Bldg., Baltimore, Md.—Bids until March 27 for maintaining sections of State highways in Calvert County, from

Owings Station to Solomon's Island, 26.5 mi.; bids to be made on blank form contained in book of specifications; specifications furnished by Com. (Lately incorrectly noted as "to construct.")

Roofing.—See Building Materials.—Frank G. Cook.

Road and Street Construction.—Marion County Court, A. G. Martin, Clerk, Fairmont, W. Va.—Bids until Apr. 25 to construct 31 mi. roads and streets, Lincoln Dist.; plans and specifications on file offices of County Clerk and of J. R. Wilson, Court House, Fairmont; County Court to furnish at least part of material.

Road and Street Construction.—Marion County Court, A. G. Martin, Clerk, Fairmont, W. Va.—Bids until Apr. 25 to construct 22 mi. roads and streets, Paw Paw Dist.; plans and specifications on file County Clerk's office, Fairmont, and office of W. M. Linn, Court House, Fairmont; County Court to furnish at least part of material. (See Paving and Road Materials.)

Seating.—See Church Equipment.—Sterling Fort.

Screw Tops (Bottle, Sprinkler).—See Cartons, etc.—Lowell R. Galdry.

Shingle Machinery.—Geo. W. Bolinger, Klondike, Tenn.—Catalogs and prices on shingle mill machinery.

Shingles (Metal).—See Building Materials. Geo. W. Bolinger.

Shovels (Steam).—F. E. B. O'Brien Co., 41 S. 15th St., Philadelphia, Pa.—Prices on four No. 0 Thew or similar make traction shovels. State age, condition and location.

Shovel (Steam).—See Locomotive, etc.—Merrill B. Parker.

Shovel (Steam).—Mercer & Miller, 618 American National Bank Bldg., Richmond, Va.—Steam shovel, about 1-yd. capacity; revolving, traction type preferred.

Shovels (Steam), etc.—Ralph R. Lewis Co., 538 Commercial Trust Bldg., Philadelphia, Pa.—Marion steam shovel, Model 31 or 36; state location, condition, full particulars and price; clam shell outfit with 1½ or 2-yd. bucket for handling coal; Erie ¾-yd. steam shovel in good second-hand condition.

RAILROAD CONSTRUCTION

RAILWAYS

Fla., Tampa.—Export Ry. Co., H. L. Pierce of Tampa, Prest., has let contract to E. W. Parker of Tampa to build 9 mi. of railroad from phosphate mines to Hillsborough Bay, 6 mi. south of Tampa, and 6-mi. spur to South Tampa; total, 15 mi. standard gauge. T. W. Parsons is V.-P. and N. P. Webber Secy. and Treas.

Ga., Augusta.—Augusta Southern Railroad, it is reported, will improve grades between Augusta and Keysville, 26 mi. J. A. White, Augusta, is Supt.

Ga., Byromville.—About 14 mi. of track has been laid, it is stated, on the proposed line of the Americus & Atlantic R. R. projected from Byromville to Americus, Ga., 26 mi., with spur 5 mi. long to a bauxite mine. Trestle and bridge over Flint River also built. Entire line projected is from Hawkinsville via Byromville to Americus, about 55 mi. J. S. Morton of Byromville is building the road.

La., Baton Rouge.—The contemplated expenditure of \$350,000 by the Yazoo & Mississippi Valley Railroad Co. (Illinois Central System) at Baton Rouge has not yet been authorized. The work would include double track. A. S. Baldwin, Chicago, Ill., is Chief Engr. of the System.

N. C., Asheville.—Charles L. Payne of Asheville has been elected chairman of a central committee which has just been formed here for the purpose of promoting plans to build a railroad about 40 mi. long to connect Asheville with the Carolina, Clinchfield & Ohio Ry. at or near Kona.

N. C., Henderson.—The Henderson & Wilson Railroad Co., which proposes to build a line from Henderson to Wilson, N. C., about 50 mi., has not yet organized. Bennett H. Perry, atty.-at-law, Henderson, and others are incorporators.

N. C., Lake Toxaway.—The time for receiving bids for the construction of about 6 mi. of standard gauge logging railroad from Lake Toxaway to Cold Mountain Gap has been extended to March 31. Bids separate for track and trestles. Address Jerome Molts, care Robert S. Brown, Chief Engr., Legal Bldg., Asheville, N. C.

N. C., Todd.—Virginia-Carolina Railway, it is reported, will extend line from Todd to

Steel Girders and Columns.—See Building Materials.—Frank G. Cook.

Stump Pullers.—Fred C. Morgan, Gen. Contr., Indianapolis, Ind.—To correspond with manufacturers of stump pullers; wants second-hand stump-pulling machinery.

Tire (Auto) Soling Machinery.—G. E. McNeill, Catawba, N. C.—Data and prices on machine for half-soling auto tires with durable steel studded treads.

Ventilating Fans, etc.—Bureau Supplies and Accounts, Navy Department, Washington, D. C.—Bids until April 10 for delivering heater boxes, ventilating fans, Douglas fir, hardware, etc.; electric disk heaters, harness leather; dishwashing, dough-mixing, and kitchen and cake machines; potato peelers, sal ammonias, steel, and zinc at navy-yard, Mare Island, Cal. Apply for proposals to Navy purchasing office, San Francisco, or to Bureau.

Welding Equipment.—Bureau Supplies and Accounts, Navy Department, Washington, D. C.—Bids until March 27 for delivering furniture covering, "Klinger" gauge glasses and frames, and electric welding and cutting outfit at navy-yard, Charleston, S. C. Apply for proposals to supply officer, navy-yard, Charleston, or to Bureau.

Well-drilling.—Walter G. Franz, Consult. Engr., Union Trust Bldg., Cincinnati, O.—To contract for drilling 3 deep wells at Tuskegee Normal and Industrial Institute, Tuskegee Institute, Ala. (Contractors in vicinity of Atlanta, Montgomery or Birmingham preferred.)

Woodworking Machinery.—Union Manufacturing Co., Canton, N. C.—Names and addresses of manufacturers of wood-turning machinery.

Woodworking Machinery.—Chas. H. Sims, Contr., 1315 Union and Planters' Bank Bldg., Memphis, Tenn.—Prices on light, modern electric mill machinery, including mortar, turning lathe, planer machine, mortice and tenoning machine, rip saw, band saw, mold machine, etc., for manufacturing grocery fixtures.

Boone, N. C., about 20 mi. Geo. P. Johnson, Abingdon, Va., is Prest. and Gen. Mgr.

Okl., Claremore.—Claremore Commercial Club is reported planning construction of an electric railway from Skiatook to Pryor, Okla., about 40 mi., via Collinsville and Claremore.

Okl., Fairfax.—Preparation is being made to survey for the Osage County & Santa Fe Railway from Owen to near Fairfax, 63 mi. C. G. Norris, Fairfax, is Engr. in charge.

Okl., Hooker.—Panhandle & Western R. R. Co. is chartered with \$300,000 capital to build a line from Hooker westward to a point at or near Kenton, Okla., about 65 mi. Incorporators, V. V. Grant and S. W. Walker of Miami, Okla., and Coke Witt of Oklahoma City, Okla.

Okl., Quapaw.—Officers of the Miami Mineral Belt Line R. R. Co., for which survey is being made from Quapaw, Okla., to Columbus, Kans., 25 mi., are J. A. Frates, Springfield, Mo., Prest.; J. H. Grant, Oklahoma City, Okla., V.-P. and Secy.; J. A. Frates, Jr., Dilworth, Okla., Treas.; W. Matthews, Miami, Okla., Ch. Engr. T. B. Slick of Clarion, Pa., is also interested.

Okl., Tonkawa.—Atchison, Topeka & Santa Fe Ry. Co. says it is not considering building a line between Tonkawa and Perry, Okla. This denies a recent report.

S. C., Chester.—Carolina & Northwestern Railway Co. will make some improvements. L. T. Nichols, Chester, is Gen. Mgr.

Tex., Dayton.—R. S. Sterling is reported building a railroad from Dayton to the Goose Creek oil field. He is president of the Humble Oil Co. and other petroleum enterprises.

Tex., Fort Worth.—Houston & Texas Central R. R. is reported to have obtained right of way for a belt line around Fort Worth connecting all railroads. Construction soon. I. A. Cottingham, Houston, Tex., is Ch. Engr.

STREET RAILWAYS

Ky., Paducah.—Paducah Traction Co. will build second track on several blocks of line. W. L. Weston is Mgr.

Mo., Kansas City.—Kansas City Railways Co. is about to let contract for an extension of the Troost Avenue line to 55th St. Philip J. Kealy is Prest.

FINANCIAL NEWS

The MANUFACTURERS RECORD invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

FINANCIAL CORPORATIONS

Ala., Fairhope.—A new bank, capitalized at \$10,000, is being organized by Henry Crawford, C. C. Baldwin, P. H. Porter and others.

Ala., Montgomery.—Industrial Savings Co. has filed articles of incorporation, capital \$2000. Incorporators: C. B. Burson, D. C. Burson, R. E. Adams, Brewton; E. L. Collin, J. O. Brown, A. M. Tully and others.

Fla., Live Oak.—Commercial Bank of Live Oak has begun business; capital \$50,000. E. J. Blume, Prest.; W. R. Dorman, V.-P.; J. W. Bush, Cashier.

Ga., Tifton.—Frank Scarboro Co., bankers and brokers, have filed articles of incorporation; capital \$100,000.

Ga., West Point.—Citizens Savings Bank has begun business, capital \$25,000. Geo. H. Lanier, Chrmn. of Board, and G. A. Avery, Prest.

Md., Mount Airy.—Building & Loan Association of Mt. Airy, capital \$750,000, is incptd. by D. Edgar Smith, Asa Watkins, Charles C. Riddlemoser, Martin L. Nicodemus, Marion V. Runkles and others.

N. C., Durham.—The Morris Plan Bank has begun business; capital \$50,000; W. P. Carr, Prest.; R. L. Baldwin, V.-P., and Southgate Jones, Secy.-Treas.

N. C., Fairmont.—People's Bank & Trust Co. has made application for a charter; capital \$10,000. Directors: D. S. Fussell, Prest.; C. A. Floyd, H. G. Stubbs, S. J. Smith and A. N. Mitchell.

N. C., Wilmington.—Double Duty Savings System Co., incptd., authorized capital \$20,000 with \$1700 paid in. J. W. Yates, Prest.; J. T. Hatfield, V.-P.; W. L. Johnson, Treas. and F. G. Cover, Secy. and Treas. Business is to begin about April 1.

Okl., Covington.—Covington State Bank, capital \$20,000, incptd. by T. J. Ellis, Jr., and J. D. Engle, Ochelata, and F. R. Zagarias, Enid.

Okl., Kiowa.—The First National Bank of Kiowa has absorbed the Peoples National Bank of Kiowa.

Okl., Pocomasset.—First National Bank of Pocomasset chartered, capital \$25,000. R. E. Wootten, Prest.; Jack Hill, V.-P.; Sam Laws, Cashier.

Okl., Vian.—First State Bank, capital \$10,000, incptd. by J. M. Brockman, C. M. Pearce and W. T. Wilson.

S. C., Anderson.—Morris Plan bank will probably be organized. J. A. Holt of Columbia is said to be interested.

S. C., Andrews.—Andrews Mutual Building and Loan Association has been granted a commission; capital \$75,000 to \$100,000. Petitioners: E. L. Powell, D. L. Moyd and H. K. Ward.

Tenn., Chattanooga.—Union Bank & Trust Co. is organized with \$50,000 capital and business is to begin June 1. W. V. Turley will be president.

Va., Louisa.—First National Bank has made application for charter, capital \$50,000.

Va., Suffolk.—American Bank of Suffolk, Inc., has amended its charter changing its name to the American Bank & Trust Co. and increasing capital stock from \$100,000 to \$150,000.

NEW SECURITIES

Ala., Attalla.—(School).—Election is to be held April 12 to vote on \$11,000 of bonds. Address The Mayor.

Ala., Clanton.—(Refunding).—Election is to be held in Chilton county Apr. 16 to vote on \$20,000 of 5 per cent. 30-year bonds to refund road and bridge debt. Address L. H. Reynolds.

[For Additional Financial News, See Pages 76, 77 and 78.]

\$100,000,000**Government of the French Republic****Two-Year 5½% Secured Loan Convertible Gold Notes***Dated April 1, 1917**Interest payable April and October 1.**Due April 1, 1919**Principal and interest payable at the office of J. P. Morgan & Co.***Coupon Notes in denominations of \$1,000, \$5,000 and \$10,000**

Convertible at par, upon notice, at the option of the holder, at any time before maturity, into Twenty-Year 5½% Bonds of the Government of the French Republic, payable April 1, 1937, and not subject to prior redemption.

Principal and interest of the notes, and of the bonds into which they may be converted, are to be payable without deduction for French taxes, present or future, in New York City in United States Gold Coin. Principal and interest of the notes are also to be payable, at the option of the holder, in Paris in francs at the fixed exchange rate of Fcs. 5.75 to the dollar, without deduction for French taxes.

In connection with the provision for optional collection in francs, it may be noted that this feature amounts to a call on French Exchange for two years at a rate of Fcs. 5.75; this being about ten per cent. below mint parity, Fcs. 5.18½, at or near which figure Exchange ruled prior to the disorganization of foreign markets brought about by the War. Such additional profit from the exchange feature as may accrue to the holders of these Notes will involve no increased interest cost to the promisor, but will be consequent upon such improvement in trade and Exchange conditions as may occur during the coming two years.

The Notes are to be secured by pledge with Central Trust Company of New York, of securities approved by J. P. Morgan & Co., valued in the aggregate at not less than \$120,000,000, of which approximately \$20,000,000 in value is to consist of securities of American corporations and municipalities (including securities of the Canadian Pacific Railway Company), and the remainder is to consist of obligations (either direct or through guaranty) of the following Governments: Argentine, Uruguay, Brazil (Funding Loan), Switzerland, Holland, Spain, Egypt, Province of Quebec, Denmark, Norway and Sweden (including certain bonds of Mortgage Banks in the last three countries, operated under Government supervision, and quoted customarily on a parity with the obligations of their respective Governments); also bonds of the State of Berne, Switzerland, bonds of the City of Stockholm, Sweden, and bonds and shares of Spanish railway companies and of the Suez Canal Company.

Provision is to be made in the pledge agreement for the maintenance of the 20% margin; for temporary lodgment of cash pending the arrival and deposit of all the collateral; for the holding by depositaries in France of such coupons from the pledged securities as mature prior to April 1, 1919; for the sale of collateral and purchase of notes with the proceeds; for proportionate withdrawals of collateral as notes are converted; and for substitutions of collateral approved by J. P. Morgan & Co., the amount of American collateral, however, not to be reduced through any such substitution.

This offering is made subject to the approval by our counsel of the necessary formalities.

**WE OFFER THE ABOVE NOTES FOR SUBSCRIPTION AT 99 AND INTEREST,
YIELDING SLIGHTLY OVER 6%.**

Subscription books will be opened at the office of J. P. Morgan & Co. at 10 o'clock A. M., Thursday, March 22, 1917, and will be closed at 10 o'clock A. M., Wednesday, March 28, 1917, or earlier in their discretion.

The right is reserved to reject any and all applications, and also, in any event, to award a smaller amount than applied for.

Amounts due on allotments will be payable at the office of J. P. Morgan & Co., in New York funds, to their order, and the date of payment will be given in the notices of allotment.

Temporary certificates will be delivered pending the engraving of the definitive notes.

Application will be made to list the above notes on the New York Stock Exchange.

J. P. MORGAN & CO.**FIRST NATIONAL BANK, New York City****KIDDER, PEABODY & CO.****WM. A. READ & CO.****KISSEL, KINNICUTT & CO.****CHASE NATIONAL BANK, New York City****BANKERS TRUST COMPANY, New York City****UNION TRUST COMPANY, New York City****UNION TRUST COMPANY, Pittsburgh****FIRST & OLD DETROIT NATIONAL BANK, Detroit****FIRST NATIONAL BANK, St. Paul***Dated March 19, 1917***BROWN BROTHERS & CO.****NATIONAL CITY COMPANY, New York City****HARRIS, FORBES & CO.****J. & W. SELIGMAN & CO.****W. P. BONBRIGHT & CO., INC.****SPENCER TRASK & CO.****NATIONAL BANK OF COMMERCE, New York City****GUARANTY TRUST COMPANY OF NEW YORK****CENTRAL TRUST COMPANY OF NEW YORK****FARMERS LOAN & TRUST COMPANY, New York City****EQUITABLE TRUST CO., New York City****COMMERCIAL TRUST COMPANY, Philadelphia****MELLON NATIONAL BANK, Pittsburgh****FIRST NATIONAL BANK, Cleveland****MARINE NATIONAL BANK, Buffalo****CENTRAL TRUST COMPANY OF ILLINOIS, Chicago****CONTINENTAL AND COMMERCIAL TRUST & SAVINGS BANK, Chicago****MERCANTILE TRUST COMPANY, St. Louis**

Capital and Surplus
\$4,000,000



Total Resources
\$38,000,000

The Largest National Bank in the South

Liberal Accommodations to Manufacturing Corporations

**MERCHANTS-MECHANICS
FIRST NATIONAL BANK
OF BALTIMORE**

The National Exchange Bank OF BALTIMORE, MD.

Hopkins Place, German and Liberty Sts.
Capital \$1,500,000.
March 30, 1915, Surplus and Profits,
\$850,000.00.

OFFICERS:
WALDO NEWCOMER, President.
SUMMERFIELD BALDWIN, Vice-Pres.
R. VINTON LANSDALE, Cashier.
C. G. MORGAN, Asst. Cashier.
Accounts of Mercantile Firms, Corpora-
tions, Banks, Bankers and Individ-
uals Invited.

Maryland Trust Company

BALTIMORE

Capital \$1,000,000

TRANSACTS A GENERAL TRUST AND
BANKING BUSINESS

Correspondence and Interviews
Invited

The Palmetto National Bank

OF COLUMBIA

CAPITAL \$500,000.00
Surplus and Undivided Profits \$250,000.00
COLUMBIA, S. C.

CORPORATION FINANCING

HOBGEN & CO.

508-9 Munsey Building
Municipal Loans Baltimore, Md.

THE TILLOTSON & WOLCOTT CO.

CLEVELAND, OHIO

**BUYERS OF COUNTY
CITY
SCHOOL AND DRAINAGE BONDS**
Correspondence Solicited

POWELL, GARARD & CO.

39 S. La Salle Street
CHICAGO, ILL.

We Buy Southern Municipal Bonds
(County, City, School, Road and Drain-
age District).

JOHN NUVEEN & CO.

First National Bank Building, CHICAGO

We purchase SCHOOL, COUNTY and
MUNICIPAL BONDS. Southern Municipal
Bonds a Specialty.
Write us if you have bonds for sale.

WE BUY BONDS

CITY, COUNTY, SCHOOL AND DISTRICT

Correspondence Invited from Officials and Contractors

SIDNEY SPITZER & CO.

New York Chicago Toledo
Cincinnati Los Angeles

Southern Branch: BELL BUILDING, MONTGOMERY, ALA.

We Buy Bonds

City, County, School and Road, from
Municipalities and Contractors.

WRITE
THE PROVIDENT SAVINGS BANK
& TRUST CO.

CINCINNATI OHIO

First National Bank

RICHMOND, VIRGINIA

Capital and Surplus - - - - \$3,000,000
JNO. B. PURCELL, President.
JNO. M. MILLER, JR., Vice-Pres.
W. M. ADDISON, Cashier.

THE BANK OF ALABAMA

ENSLEY, ALABAMA

R. A. TERRELL - President
J. W. MINOR - Vice-President
FOSTER HAMILTON Cashier
We Solicit Your Business

MUNICIPAL BONDS

City, County, Road and Drainage

Bought from Municipalities or from

CONTRACTORS

WALTER E. ORTHWEIN
Established 1898. 220 N. 4th St., St. Louis, Mo.

Municipal Bonds

BOUGHT

from Contractors and Municipalities

STACY & BRAUN

Second National Bank Bldg., TOLEDO, O.

WE BUY

Municipal Bonds

ISSUED BY

Counties, Cities, School Districts
and Road Districts.

WRITE US

CUMMINGS, PRUDEN & CO.

Second National Bank Building

TOLEDO, OHIO

Ala., Clanton—(Courthouse).—Election is
to be held in Chilton County April 16 to
vote on \$200,000 of 5 per cent. 25-year bonds.
Address County Comms.

Southern Cotton Mill Stocks

A. M. LAW & COMPANY

DEALERS

SPARTANBURG, S. C.

CONTRACTORS AND MANUFACTURERS

TIME

N. R. P. CO.
200
TIME CHECK

CHECKS

We Make Them Promptly.

Headquarters for SEALS, STOCK CERTIFICATES, STENCILS,

STEEL DIES, BRASS SIGNS, ENAMEL PLATES.

MEMORIAL PLATES, CHURCH SEALS AND PEW PLATES.

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automobile, accessory, industrial and
realty projects, and is prepared to give
consideration to similar enterprises
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FOR SALE Timber, Coal, Iron, Ranch
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Southern States. West Indies. Mexico.

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Tribune Building. NEW YORK, N. Y.
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Settlements and Purchases of Property.

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P. O. Box 115 PETERSBURG, VA.

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lines of business

Write us about Investments in Birmingham
Real Estate.

Jemison Real Estate & Insurance Co.

Real Estate

General Insurance, Loans

211 N. Twentieth St. BIRMINGHAM, ALA.

Ala., Florence—(School).—\$40,000 of 5 per
cent. 30-year high-school bonds have been
purchased by Sidney, Spitzer & Co., To-
ledo, at 161.14.

Ala., Talladega—(Water).—Bids will be re-
ceived until Mch. 25, inclusive, for \$145,000 of
5 per cent. 30-year bonds. J. W. Vandiver is
Pres. Board of City Comms.

Ala., Tuscaloosa—(Wharf).—\$50,000 of bonds
are voted. J. V. Jones is City Clk.

Ark., Fayetteville—(Paving).—\$16,000 of 5
per cent. 8-year bonds have been purchased
by the City National Bank of Fort Smith,
Ark.

Ark., Little Rock—(Notes).—The \$750,000
of short-time notes authorized by Legisla-
ture to pay State debt will be sold July 2.
J. T. Terral is Secy. of State.

Ark., Pine Bluff—(School).—Bids will be
received until 10 A. M. Mch. 31 for \$165,000 of
4½ per cent. bonds Special School Dist. of
Pine Bluff, Jefferson County, dated May 1,
1917, and maturing 1928 to 1944, inclusive;
denomination \$500 or \$1000 to suit purchaser.
E. F. Albaugh is City Clk. Further par-
ticulars will be found in the advertising
columns.

Ark., Russellville—(School).—\$25,000 of 5
per cent. 20-year bonds Atkins Special
School Dist., Pope County, have been pur-
chased at par and interest by Speer & Dow,
Little Rock.

Fla., Bartow—(Road, Bridge).—\$40,000 of
Lake Hamilton Road and Bridge Dist., Polk
County, bonds are voted. Address County
Comms.

Fla., Clearwater—(School).—Election is to
be held in Anona School Dist., Pinellas
County, April 20 to vote on \$3500 of bonds.
Address Board of Trustees.

Fla., De Land—(School).—Bids will be re-
ceived until noon April 16 for \$8000 of 6 per
cent. 4-28-year \$500 denomination bonds Spe-
cial Tax School Dist. No. 32, Volusia County,
dated Jan. 1, 1917. V. W. Gould is Chron.
Board of Public Instruction, Volusia County.

Fla., Fort Myers—(Road, Bridge).—\$100,000
of 5 per cent. \$500 denomination bonds
Caloosa Valley Highway Special Road and
Bridge Dist., Lee County, have been pur-
chased at nearly \$2000 premium by the Bank
of Fort Myers.

Fla., Jacksonville—(School).—\$250,000 of 5
per cent. 30-year \$1000 denomination bonds
Special Tax School Dist. No. 1, Duval
County, have been sold at \$16,927 premium
by John Nuveen & Co., Chicago.

Fla., Milligan—(School).—\$15,000 of Laurel
Hill Special Tax School Dist., Okaloosa
County, bonds are voted and bids for same
will be opened April 9. Address County
School Board, W. C. Pryor, Supt.

Fla., Miami—(Sewer, Bridge, Hospital,
etc.).—Election is to be held March 20 to vote
on the following bonds: Sewer \$75,000;

CONDENSED REPORT TO COMPTROLLER

The First National Bank OF BIRMINGHAM, ALA.

ALABAMA'S FIRST MILLION-DOLLAR BANK

STATEMENT MARCH 5, 1917

RESOURCES		LIABILITIES	
Loans and Discounts.....	\$11,006,621.58	Capital Stock.....	\$ 1,500,000.00
Overdrafts.....	423.83	Surplus and Profits.....	1,564,096.41
U. S. Bonds (par).....	1,500,000.00	Reserved for Taxes.....	9,628.19
State of Alabama Bonds..	127,000.00	Circulation.....	1,400,000.00
Stock in Fed. Reserve Bk..	90,000.00		
Other Stocks and Bonds...	1,263,042.55		
Banking House.....	365,500.00		
Other Real Estate.....	104,691.85		
CASH		DEPOSITS	
In Vault.....	\$1,401,833.57	Individual \$14,048,601.73	
With Banks..	4,306,486.12	Bank.....	2,335,901.47
With U. S.		U. S.....	125,000.00
Treasurer..	103,500.00		
With Federal			
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Fla., Orlando—(School).—\$40,000 of 5 per cent. 20-year \$500 denomination bonds Special Tax School Dist. No. 1, Orange County, dated April 1, 1917, have been purchased at \$200 premium by the State Bank of Orlando.

Fla., St. Petersburg—(School).—\$175,000 of 5 per cent. 20-year \$1000 denomination bonds Special School Tax Dist. 3, St. Petersburg, Pinellas County, have been purchased at \$442 premium by Elson Company, Chicago, Ill.

Fla., Tarpon Springs—(Sewer, Water, Street).—Bids will be received until 2 P. M. Feb. 30 for \$15,000 of sewer, \$15,000 water system and \$7500 of street and parkway 5 per cent. 20-year \$500 denomination bonds. E. F. Albaugh is City Clk.

Fla., Tavares—(Road, Bridge).—\$65,000 of 6 per cent. \$1000 denomination Howey Road and Bridge Tax Dist., Lake County, bonds have been purchased at \$61.750 by W. L. Slayton & Co., Toledo, O.

Ga., Oglethorpe—(Bridge).—\$100,000 of 4½ per cent. 1-20-year \$1000 denomination Macon County bonds are voted. Date for opening bids not yet decided. Bonds will have to

be validated by Superior Court before they are offered for sale. A. H. Perry is Clerk County Court.

Ky., Hazard—(Road).—Election is to be held in Perry county Apr. 5 to vote on \$150,000 of bonds. Address County Commrs.

Ky., Lexington—(Street).—At public auction at 11 A. M. Mch. 22 city will offer for sale \$615.36 of 6 per cent. bonds. James C. Rogers is Mayor.

La., Alexandria—(Road).—\$56,000 of 5 per cent. \$500 denomination bonds Road Dist. No. 12, Rapides Parish, dated Aug. 1, 1916, and maturing 1917 to 1936, inclusive, have been purchased at par and interest by the Rapides Bank, Alexandria.

La., Arcadia—(Road).—Bids will be received until noon April 2 by G. L. Wren, Secy. Board of Supvrs., for \$65,000 of 5 per cent. \$500 denomination bonds Road Dist. No. 2, Bienville Parish.

La., Colfax—(Road).—\$150,000 of 5 per cent. 20-year \$500 denomination bonds Grant Parish Road Dist. No. 8 are voted, and bids for same will be opened May 16. W. A. Brownlee is Prest. Police Jury, Grant Parish.

La., Lafayette—(Road).—\$300,000 of Lafayette Parish bonds are voted. They have been purchased at par by the Iberia Bank & Trust Co., New Orleans.

La., Marksville—(Water).—Town contemplates issuing bonds for water-works. Address E. M. Kirschmidt.

La., New Orleans—The 4½ per cent. warehouse, elevator and wharf bonds recently bought by a syndicate, including several New Orleans institutions, Halsey, Stuart & Co.,

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Ms., Georgetown—(Street).—Question of issuing \$15,000 of street-improvement bonds is reported under consideration. Address The Mayor.

Ms., Grantsville—(Light).—Election is to be held April 2 to vote on water and sewer bonds. H. C. Bonig is Mayor.

Ms., Hagerstown—(Sewer).—Ordinance has been passed by the Mayor and Council authorizing the issuing of \$140,000 of bonds.

Miss., Belzoni—(School).—Bids will be received until 6 P. M. April 3 by F. M. Pepper, Town Clerk, for \$5000 of 6 per cent. 20-year \$500 denomination bonds voted February 27. T. L. Gilmer is Mayor.

Miss., Canton—(Road).—Bids will be received until 11 A. M. Apr. 2 by Board of Suprvs. of Madison County for \$30,000 of 11-25-year bonds Suprvs. Dist. No. 1, Madison County. Interest not to exceed 6 per cent. D. C. McCool is Clerk of Board. Further particulars will be found in the advertising columns.

Miss., Clinton—(Artesian Well).—Bonds are reported voted. Address The Mayor.

Miss., Indianola—(County Bonds).—\$100,000 of bonds have been purchased by J. C. Meyer & Co. of Cincinnati and \$100,000 by Bank of Commerce & Trust Co., Memphis, Tenn.

Miss., Ellisville—(School).—Board of Suprvs. of Jones County gives notice that it proposes to issue \$8000 of 6 per cent. \$1000 denomination bonds for Moselle Public School Dist.

Miss., Liberty—(Road).—\$50,000 of Amite County bonds are voted. Address County Commrs.

Miss., Meridian—(Sidewalk Paving).—\$3155.64 of 6 per cent. 1-10-year \$315.56 denomination bonds have been sold at par, accrued interest and \$51 premium. R. L. Blanks is City Clerk.

Miss., Purvis—(School).—Board of Suprvs. Lamar County gives notice of intention to issue \$20,000 of 5½ per cent. bonds for Lamar County Agricultural High School.

Mo., Poplin—(School).—Bids will be received until 5 P. M. March 23 for \$12,000 of 5 per cent. \$1000 denomination bonds, dated April 1, 1917, and maturing 1929 to 1931, inclusive. Address F. C. Gardner, Prest. Oakland School Dist. No. 98, Jasper County.

Miss., Starkville—(Paving).—\$15,000 of notes for street paving have been sold at par. Address The Mayor.

Miss., Vicksburg—(School).—Bids will be received until noon April 3 for \$20,000 of 5 per cent. 5-25-year \$1000 denomination Warren County Agricultural High School bonds, dated April 3, 1917. J. D. Laughlin is Clerk.

Mo., Kahoka—(Water).—Election will probably be called to vote on bonds. Address L. R. Sherrill.

Mo., Kirksville—(Water).—City is planning to hold an election to vote on \$135,000 of bonds. Address The Mayor.

Mo., Queen City—(School).—\$9000 of 4½ per cent. 20-year \$500 denomination Queen City School Dist. bonds, dated Apr. 1, 1917, and maturing 1937, recently voted, have been purchased at \$895 by Little & Hays Investment Co., St. Louis.

Mo., Plattsburg—(School).—\$35,000 of 5 per cent. 20-year \$500 denomination Plattsburg School Dist. bonds have been purchased at \$35,776 by First National Bank.

N. C., Asheville—(School).—Election is to be held in Weaverville Dist., Buncombe County, April 24 to vote on \$17,000 of bonds. Address County Commrs.

N. C., Ashboro—(Railroad Aid).—Election is to be held in New Hope Township, Randolph County, April 25, to vote on \$20,000 of 6 per cent. 30-year bonds in aid of Carolina & Yadkin River Railway Co. Address County Commrs.

N. C., Hickory—(Refunding, Sewer).—Bids will be received until 8 P. M. Apr. 10 for \$11,000 of 5 per cent. 10-year \$1000 denomination bonds, dated May 1, 1917, and maturing May 1, 1927. John W. Ballew is City Mgr.

N. C., Madison—(City Bonds).—\$8000 of 6 per cent. 30-year bonds have been purchased at \$8487 by Sidney Spitzer & Co., Toledo, O.

N. C., Raleigh—(School).—Bids will be received until noon April 16 for \$15,000 of bonds of Fuquay Springs Consolidated and Graded School Dist., Wake County. L. J. Sears is Chrmn. Board of Education for Wake County.

N. C., Rocky Mount—(Improvement and Funding).—\$50,000 of 5 per cent. bonds have

been purchased at \$50,940 by Terry, Briggs & Co., Toledo, O.

N. C., Smithfield—(Road).—\$50,000 of 5 per cent. 30-year Wilders and Cleveland townships bonds have been purchased by W. T. Slayton & Co., Toledo, O.

N. C., Thomasville—(Sidewalk).—The \$3000 of bonds to be voted on April 2 are 30-year 5 per cents. Denomination \$1000. N. R. Mullican is City Mgr.

N. C., Warrenton—(Street).—\$15,000 of 5 per cent. 5-year bonds have been purchased at par by the Citizens Bank of Warrenton.

N. C., Yadkinville—(Road).—\$140,000 of 5 per cent. 40-year Yadkin County road bonds have been purchased at \$4777 premium by Spitzer-Rorick & Co., Toledo, O.

Okla., Chickasha—(School).—\$95,000 of 5 per cent. 15-25-year \$500 denomination School Dist. bonds have been purchased at \$9250 premium by Ben F. Johnson, Chickasha, Okla.

Okla., Blackwell—(School).—\$85,000 of 5 per cent. \$1000 denomination bonds, dated Mch. 1, 1917, and maturing Mch. 1, 1942, have been purchased by G. I. Gilbert, Oklahoma City.

Okla., Enid—(School).—Election is to be held Apr. 2 to vote on \$50,000 of 5 per cent. 25-year \$500 denomination bonds. Bids for same will be opened Mch. 20, subject to election. Address J. H. Shaw.

Okla., Kingfisher—(School).—\$75,000 of bonds defeated.

Okla., Muskogee—(Bridge, Road).—Election is to be held in Muskogee County April 10 to vote on \$550,000 road and \$150,000 bridge 4 per cent. \$1000 denomination serial bonds. W. T. Cole is Chrmn. Board of County Commrs.

Okla., Okemah—(Road).—Okfuskee County townships have voted 5 per cent. serial bonds as follows: Paden, \$40,000; Castle, \$10,000; Okemah, \$36,000; Lincoln, \$13,000. Date for opening bids not yet decided. J. W. Butler is Chrmn. County Commrs.

Okla., Hugo—(Settling Basin).—Election is to be held March 29 to vote on \$10,000 of bonds. Address The Mayor.

Okla., Skiatook—(Water, Light).—Election is to be held March 29 to vote on \$6000 of water and \$12,000 light bonds. Address The Mayor.

Okla., Sulphur—(City Hall).—Election is to be held July 22 to vote on \$6000 of 6 per cent. 20-year \$1000 denomination bonds, dated July 22, 1917, and maturing 1937. Bonds have already been sold. H. B. Webster is Mayor.

Okla., Tishomingo—(Road).—\$28,500 Garrett township and \$14,000 Harris township, Johnston County, 6 per cent. 1-25-year bonds are voted. First National Bank, Tishomingo, was the purchaser at 104.611.

Okla., Tulsa—(School).—\$500,000 of 4½ per cent. bonds have been purchased at \$4650 premium by G. R. McCullough, Tulsa.

S. C., Anderson—(Drainage).—Board of Drainage Commrs. of Six and Twenty Drainage Dist. gives notice of intention to issue \$27,000 of 6 per cent. 25-year bonds. W. E. Eskew is Secy.

S. C., Anderson—(Drainage).—Bids will be received until noon March 24 for \$33,000 of 6 per cent. 25-year \$500 denomination bonds Eighteen-Mile Creek Drainage Dist. Address W. E. Watson, Secy. Board of Drainage Commrs.

S. C., Beaufort—(Road).—Beaufort County is reported authorized by the General Assembly to issue bonds. Address County Commrs.

S. C., Beaufort—(Paving).—Bonds have been voted. Address The Mayor.

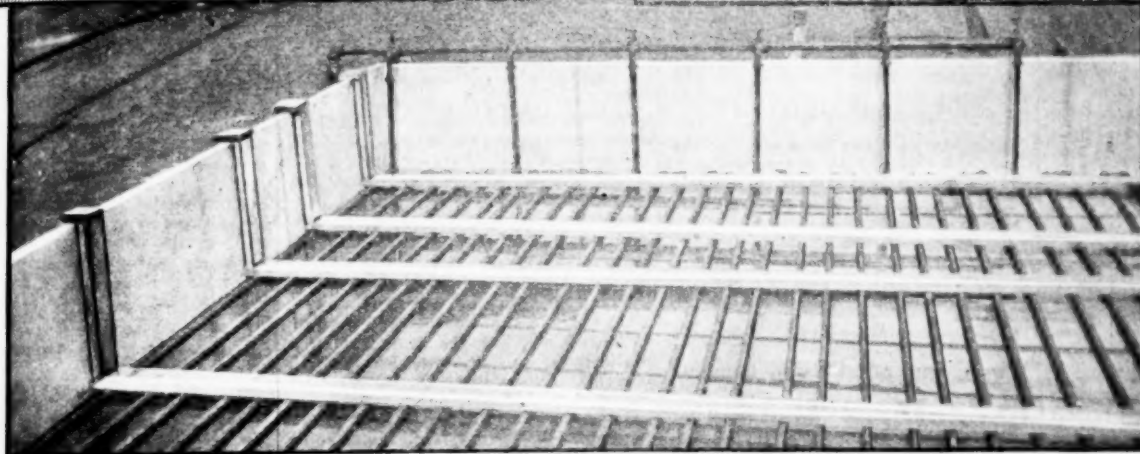
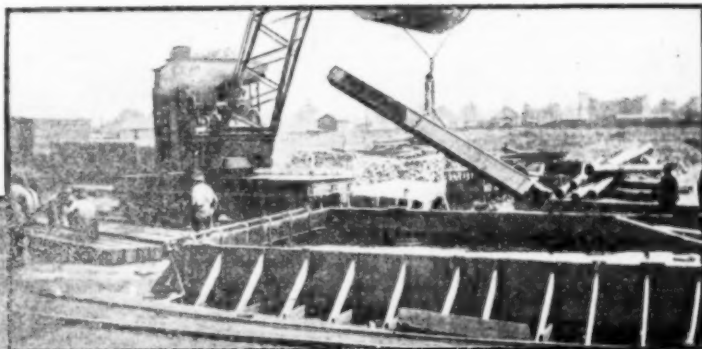
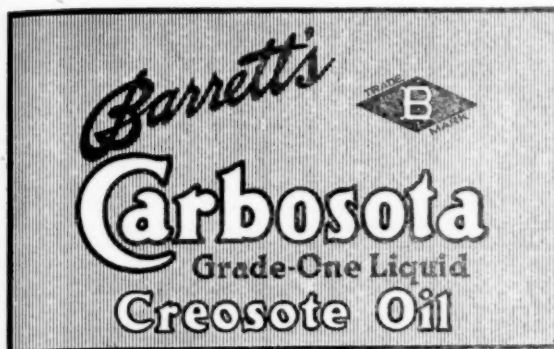
S. C., Darlington—(Street).—Bids will be received until noon Apr. 6 for \$50,000 of 5 per cent. \$1000 denomination bonds, dated Apr. 1, 1917, and maturing Apr. 1, 1947. Address Town Council, E. R. Cox, Mayor. Further particulars will be found in the advertising columns.

S. C., Eastley—(Street, Sewer).—\$25,000 of street and sidewalk and \$20,000 sewer bonds are to be issued. Address Town Commrs.

S. C., Edisto Island—(Bridge).—Edisto Island Township, Charleston County, is authorized to issue \$6000 of 10-year bonds. Address Town Commrs.

S. C., Gaffney—(Road).—\$225,000 of 4½ per cent. 1-30-year \$500 and \$1000 denomination Cherokee County bonds are voted, and bids for same will be received until 10 A. M. Apr. 2; dated Apr. 1, 1917, and maturing \$2000 each year for the first 10 years, \$7500 each year for the next 10 years and \$10,000 each year thereafter. W. C. Hamrick is

[Continued on Page 80.]



Upper illustration shows method of charging and unloading treating-tank.

Lower illustration shows a temporary open treating-tank constructed of wood lined with galvanized sheet iron, soldered at all joints; size 20 ft. x 25 ft. x 3 ft. deep. Note steam-pipes for heating.

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It is adaptable to all conditions, is economical and effective.

The cost is reasonable and warranted in each case where the mechanical life of the structure is greater than the natural life of the wood.

The illustrations herewith show a temporary plant, and its operation during the treatment of over one-quarter million feet, board measure, of 12x12 inch and 6x12 inch timbers, used as floor-framing in an industrial building in which conditions are favorable to the development of decay.

An average absorption was obtained of approximately 10 gallons of CARBOSOTA Creosote Oil per 100 square feet of surface.

The theory of the Open-Tank System is that in the hot treatment the heat of the preservative expands and expels a portion of the air and water contained

in the wood-cells. Then upon immersion in the cold oil, or when subjected to the change in temperature caused by the cooling of the creosote, there is a partial contraction and condensation of the air and water that remains, resulting in a slight vacuum within the wood. This, aided by atmospheric pressure combined with capillary action between the wood-cells and the preservative, achieves the actual impregnation.

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Chrmn. County Highway Commission. Further particulars will be found in the advertising columns.

S. C., Greenville—(School).—Owing to error in the bill just enacted by Legislature, the authorized issue of \$150,000 bonds is null and void, and it will be Jan., 1918, before new bill can be enacted. P. T. Hayne is Chrmn. School Board.

S. C., Greenville—(School).—Bids will be received until noon April 1 for the loan of \$90,000 to Greenville County. W. H. Willmon is County Supr.

S. C., Saluda—(Courthouse).—Saluda County is authorized by General Assembly to issue not more than \$50,000 of bonds. Address County Commrs.

Tenn., Bristol—(Water).—City is authorized to hold an election to vote on \$50,000 of bonds to improve water system. Address The Mayor.

Tenn., Chattanooga—(Bridge, Funding School, Road).—\$500,000 of Market Street Bridge, \$100,000 of funding school and \$50,000 Suck Creek road bonds have been purchased jointly at par, \$4582.50 premium and interest at 4½ per cent., by J. S. Rippel & Co., Newark, and Geo. B. Gibson & Co., New York.

Tenn., Cleveland—(Sewer, Street).—City Council has voted to issue \$10,000 of sewer bonds authorized by Legislature and application is to be made to the Legislature for authority to issue \$25,000 of street bonds. Address The Mayor.

Tenn., Clarksville—(School).—\$20,000 of 5 per cent. 20-year \$500 denomination bonds, dated Apr. 1, 1917, and maturing 1937, have been purchased at \$20,457 and accrued interest by Little & Hays Investment Co., St. Louis.

Tenn., Greenville—(Road).—Election is to be held in Greene County March 31 to vote on \$510,000 of bonds. Address County Commissioners.

Tenn., Jonesboro—(Road).—\$750,000 of Washington County bonds are voted. W. C. Leab is Clerk County Court.

Tenn., Maynardville—(Road).—Union County is authorized by the County Court to sell from \$40,000 to \$50,000 of warrants for additional road improvements. Address Clerk County Court.

Tenn., Memphis—(Funding, Fire Dept., Bridge, etc.).—Bill has been introduced in the Legislature authorizing city to issue bonds for following purposes: Funding overdraft from the Crump administration \$296,000; funding accounts, payable, \$110,000; buying equipment for fire and police departments \$31,000; Harahan bridge approach \$25,000; Lamar subway \$7500; Monroe Avenue bridge over the Southern Railway \$6000; extension of McLemore Avenue to the west \$75,000; front foot work done recently \$36,000. Address The Mayor.

Tenn., Nashville—(State University).—Bill is before the Legislature authorizing the issuing of \$1,000,000 of bonds for University of Tennessee. Tom C. Rye is Governor.

Tenn., Paris—(Refunding).—\$65,000 of 5 per cent. refunding bonds have been purchased jointly by the Bank of Henry, the Commercial Bank and the First National Bank, Paris.

Tenn., Trenton—(School).—Plans are being made to hold an election to vote on \$50,000 bonds. Address The Mayor.

Tex., Austin—(School).—School Dist. bonds aggregating \$13,600 have been purchased by the State Board of Education.

Tex., Austin—Bonds approved by Atty. General: \$150,000 of 5 per cent. 40-year serial Navarro County Road Dist. No. 9; \$10,000 of 5½ per cent. Nueces County Road Dist. No. 9; \$50,000 of 5 per cent. 10-40-year Wheeler County Road Dist. No. 1.

Tex., Bartlett—(School, City Hall, Fire House).—\$12,000 school, \$3000 city hall and firehouse bonds are voted. Address The Mayor.

Tex., Cameron—(Road).—\$15,000 of 5½ per cent. 1-40-year \$1000 denomination bonds County Road Dist. No. 9, Milam County, are soon to be offered. Address W. G. Gillis, County Judge.

Tex., Corsicana—(Water).—Steps are being taken to issue \$50,000 of bonds. Address The Mayor.

Tex., Brownwood—(School).—Election is to be held Mch. 31 to vote on \$15,000 of 5 per cent. 40-year \$1000 denomination bonds. Address R. E. Lee, City Atty.

Tex., Galveston—(Causeway).—Bids will be received until 11 A. M. May 2 for \$250,000

of 5 per cent. 20-40-year Galveston County bonds, being part of the \$600,000 issue recently voted. Address County Clerk.

Tex., Georgetown—(Road).—Election is to be held in Williamson County April 17 to vote on \$500,000 of bonds. Address County Commrs.

Tex., Mt. Vernon—(Water).—\$2000 of 5 per cent. 20-40-year water-works bonds have been purchased by J. L. Arlitt, Austin, Tex.

Tex., Paris—(School).—Board of Supvrs. Lamar County gives notice of intention to issue \$20,000 of 5½ per cent. bonds for Lamar County Agricultural High School.

Tex., Plainview—(Street).—\$40,000 of 5 per cent. 10-40-year \$1000 denomination bonds are voted. Date for opening bids not yet decided. W. E. Risser is Mayor.

Tex., Sherman—(Park, Auditorium).—Bids will be opened April 2 for \$50,000 of 5 per cent. \$1000 denomination bonds, dated May 1, 1917, and maturing serially. W. G. Banks is City Clerk.

Tex., Waco—(School).—\$150,000 of bonds will probably be issued. Address City School Board.

Tex., Waco—(Street, Sewer).—\$50,000 of bonds recently voted are 30-year 5 per cents. Denomination \$1000. Date for opening bids not yet decided. Address Jno. Dallius, Jno. C. Davis is Mayor.

Tex., Waco—(School).—China Springs Independent School Dist., McLennan county, recently incorporated, proposes to hold an election in near future to vote on \$12,000 of bonds. Address Bd. of Trustees.

Va., Charlotte—(County Bonds).—Bids will be received until noon Apr. 9 for \$35,500 of 5 per cent. 20-30-year Charlotte County bonds, dated May 1, 1917. Address Board of County Supvrs., Geo. B. Russell, R. S. Chamberlayne, Jr., and J. C. Carrington, Committee. Further particulars will be found in the advertising columns.

Va., Clarendon—(Road, Bridge).—The \$122,137.14 of Washington Magisterial Dist., Alexandria County, bonds, for which bids will be received until 10 A. M. Mch. 23, will run 5-34-years, with interest at 4½ or 5 per cent.; denominations, \$100, \$500 and \$1000. Geo. H. Rucker is Clerk Board of Supvrs.

Va., Galax—(Sewer, Refunding).—\$30,000 of

6 per cent. 30-year \$1000 denomination bonds to pay outstanding indebtedness and other bonds and to install sewer system have been purchased at \$3165 premium by Stacy & Braun, Toledo, Ohio.

Va., Portsmouth—(School).—\$150,000 of 4 per cent. 30-year bonds have been purchased by Cummings, Prudden & Co., New York.

W. Va., Berkeley Springs—(School).—\$20,000 of 6 per cent. 20-year \$500 denomination bonds have been purchased at \$21,543 by C. W. McNear & Co., Chicago.

W. Va., Buckhannon—(Road).—\$180,000 of 5 per cent. 34-year \$100, \$500 and \$1000 bonds Buckhannon Dist., Upshur County, bonds, dated July 1, 1917, are voted. Date for opening bids not yet fixed. Ernest Phillips is Clerk.

W. Va., Cameron—(School).—Election is to be called to vote on \$25,000 of bonds. Address Board of Education, Cameron Dist.

W. Va., Ceredo—(School).—Election is to be held April 21 to vote on \$60,000 of 6 per cent. 10-40-year \$500 denomination bonds Independent School Dist. of Ceredo, Wayne County; dated June 1, 1917. H. L. Stone is Secy. Board of Education.

W. Va., Elkins—(Road).—\$130,000 of 5 per cent. 1-20-year bonds Dry Fork Magisterial Dist., Randolph County, defeated.

W. Va., Parsons—(Road).—Bids will be received until 1 P. M. April 10 for \$60,000 of 6 per cent. 15-year serial bonds Dry Fork District, Tucker County; dated June 1, 1917; denominations \$100, \$500 and \$1000. A. Williamson is Prest. and H. F. Colebank Clerk County Court.

FINANCIAL NOTES

The annual meeting of the South Carolina Bankers' Assn. this year is to be held at Clemson College June 27, 28 and 29. Julian C. Rogers of Florence is secretary.

The Federal Farm Loan Board at Washington has announced that loans will be made to farmers under the rural credits act at 5 per cent., the loans to be secured by mortgages. It is further stated that average interest on farm loans is now about 7.4 per cent. and the aggregate farm-mortgage debt in the United States is about \$4,000,000,000.

SALE AT PUBLIC AUCTION OF THE Orangeburg Manufacturing Company as a Going Concern on April 19, 1917

IN THE DISTRICT COURT OF THE UNITED STATES IN EQUITY.
FOR THE EASTERN DISTRICT OF SOUTH CAROLINA.
THE CITIZENS' AND SOUTHERN BANK,

Complainant,

vs.
ORANGEBURG MANUFACTURING COMPANY,
Defendant.

UNDER AND BY VIRTUE OF A DECREE of the HONORABLE HENRY A. M. SMITH, Judge of the United States District Court for the Eastern District of South Carolina, bearing date the 27th day of February, 1917, and entered and filed in the office of the Clerk of said Court on the same day, the undersigned Receivers, E. F. VERDERY and B. H. MOSS, will offer for sale at public auction, and sell, in block, as a going concern, at such public auction, to the highest bidder, upon Thursday, the 19th day of April, 1917, at 12 o'clock M., at the main entrance of the County Court House of the County of Orangeburg, South Carolina, in the City of Orangeburg, County of Orangeburg, and State of South Carolina, all and singular the tangible property, including as a part thereof the stock in said mills in process of manufacture, and the rights, franchises and privileges of the Defendant, Orangeburg Manufacturing Company which at the time of such sale are in the custody of the said Receivers, or of which the said Orangeburg Manufacturing Company may be seized or possessed, including all and singular the corporate rights and franchises so far as the same may be sold by order of any Court; all lands, rights of way and easements, all mills, factories, warehouses, cotton-houses, storehouses, power-houses, dwelling-houses and schoolhouses and all other buildings and the equipment and contents thereof, together with all looms, engines, boilers, dynamos, electric and mechanical appliances, motors, conduits, tools, fixtures and appurtenances of every description, all business, goodwill, contracts for manufacture, patents, rights; privileges, licenses and any and all interest in the same, including cotton in the course of manufacture and supplies of every kind on hand or contracted to be delivered for the purpose of manufacturing, together with all and singular the tenements, hereditaments and appurtenances belonging to or in anywise appertaining to the aforesaid property or any part thereof, with the reversion and reversions, remainder and remainders, and rents, issues and profits thereof to accrue from the date of purchase, and all estate, right, title and interest whatsoever in law or in equity which Orangeburg Manufacturing Company now has in and to the aforesaid property in the possession of the Receivers, or of which the said Company may be seized or possessed, not in the possession of the Receivers, including herein, all and singular, the following pieces and parcels of land, briefly described as follows, but more particularly set forth and described in the said Decree of Sale, to which reference is had:

ALL that certain piece, parcel or tract of land with the mill buildings thereon, situate, lying and being on Railroad Avenue, in the City and County of Orangeburg, in the State of South Carolina, containing three (3) acres, more or less, butting and bounding as is more particularly set forth and described in a deed of conveyance to the Enterprise Cotton Mills by Samuel Dibble by his deed dated the 27th day of November, 1896;

ALSO

THAT certain lot, piece or parcel or tract of land, with the buildings thereon, situate, lying and being in the said City and County of Orangeburg, in the said State, containing nine (9) acres, more or less, and bounded as is more particularly set forth and described in a deed of conveyance by W. C. Smith, Trustee, to the Orangeburg Manufacturing Company, dated February 1st, 1900, and recorded in the office of the Clerk of the Court of Common Pleas and General Sessions for Orangeburg County, South Carolina, in Book 37, page 532;

ALSO

ALL that certain lot of land, situate, lying and being in the City of Orange-

burg, County and State aforesaid, containing eight-tenths (8-10) of one acre, more or less, and bounded as is set forth and described in a deed from Samuel Dibble to Orangeburg Manufacturing Company dated May 23d, 1900, and recorded in the office of the Clerk of the Court of Common Pleas and General Sessions for the County of Orangeburg, State of South Carolina, in Book 40, page 203;

ALSO

ALL that certain piece, parcel or tract of land, situate, lying and being in the City of Orangeburg, containing seven and one-half (7½) acres, more or less, more particularly bounded and described in a certain deed of conveyance from Henry H. Brunson, Judge of Probate, as Special Referee, to Orangeburg Manufacturing Company, dated the 4th day of June, 1900, and recorded in the office of the Clerk of the Court of Common Pleas and General Sessions for the County of Orangeburg, State of South Carolina, in Book 37, page 705;

ALSO

ALL that certain piece, parcel or tract of land, situate, lying and being in the City and County of Orangeburg, State aforesaid, containing eight and forty-five one-hundredths (8.45) acres, more or less, and bounded as is set forth and described in a deed of conveyance from Lydia A. Duke to Orangeburg Manufacturing Company, dated the 7th day of March, 1900, and recorded in the office of the Clerk of the Court of Common Pleas and General Sessions for the County of Orangeburg, State of South Carolina, in Book 37, page 530.

THE TERMS OF SALE ARE AS FOLLOWS:

The upset price fixed by the Court below which the said property shall not be sold, and less than which no bid can be entertained by the Receivers, is by said Decree fixed and determined at the sum of Two Hundred and Twelve Thousand Dollars (\$212,000.00).

The terms of sale shall be cash.

No bid will be received from any bidder for the entire property hereby ordered to be sold who shall not first deposit with the Receivers the sum of Ten Thousand Dollars (\$10,000.00) either in cash or in a check certified by a National or State bank or trust company in good standing located in the State of South Carolina. The cash or check so deposited shall be held as security that said bidder shall make good his bid if accepted by the Court, and shall be held and used as for and on account of damages upon the failure to comply upon notice so to do as the minimum damage incurred by such failure.

The attention of all prospective bidders is called to the other provisions, stipulations and conditions of sale contained in the aforesaid Decree, the purport or effect of which can be obtained by applying to either of the undersigned Receivers, to wit, E. F. VERDERY, at Augusta, Ga., or B. H. MOSS, at Orangeburg, S. C., or to the attorneys of the Receivers, to wit, T. MOULTRIE MORDECAI, at Charleston, S. C., or WILLIAM ELLIOTT, at Columbia, S. C., or RICHARD W. HUTSON, Clerk of the United States District Court at Charleston, S. C.

E. F. VERDERY,
B. H. MOSS,

Receivers, Orangeburg Manufacturing Company.

T. MOULTRIE MORDECAI,
WILLIAM ELLIOTT,
Attorneys for Receivers.
Charleston, S. C., March 15, 1917.

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DIRECTORY CHEMISTS GEOLOGISTS CHEMICAL ENGINEERS TESTING LABORATORIES

Detailed classification of specialized work undertaken by those having cards in this Directory will be found in Classified Index.

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Geological, Mining and Metallurgical Engineering.
 Examination and Exploration of Mineral Properties. Design and Erection of Concentration Plants. Management and Iron Ore Problems a Specialty.
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Analytical and Consulting Chemist
 Analyses of Iron, Steel, Ores, Alloys, Coal, Sand, Clay and Cement.
 28 South Tenth St. PHILADELPHIA, PA.

Gas & Electric Engineering Corporation, announces an organization to investigate, design, construct and supervise engineering works in power development, transmission, railroad electrification, electric railways, lighting systems and industrial plants. It is B. F. Wood Engineers, Inc., Woolworth Bldg., New York.

Crocker-Wheeler Co. Shows Success.

The February statement of the Crocker-Wheeler Company, electrical machine manufacturers, Ampere, N. J., shows an increase in surplus of about 7 per cent., bringing the total surplus to more than \$850,000. The net earnings broke the record this short month, being greater than in any February since the founding of the company 28 years ago. It is further stated that the bookings continue good and this represents straight electrical business, as the company, after completing several highly profitable munition contracts, has returned to the exclusive manufacture of electrical equipment. However, it is announced that the company stands ready to re-enter the munition business if called upon by the United States Government.

To Manufacture Motor Plows, Etc.

E. V. Wade, Atlanta, Ga., informs the Manufacturers Record that a stock company is being organized to manufacture motor plows and cultivators in Gadsden, Ala. These horseless plows, he says, will be especially adapted to the small farms of the South. Victor Wade, formerly of Gadsden, the inventor of the machines, will have charge of the plant. Mr. Wade further writes that these motor plows will enable farmers to do more work at less cost than could possibly be accomplished with horses and feed at present prices, and that for a great deal of the time one man with one of the machines could do the work of two men with two horses. Use of the machine would cost but little more than one horse, and it could be run from daylight until dark without stopping.

Growth Compels Larger Quarters.

The McNeill Ornamental Iron & Construction Co. of Baltimore announces that, owing to the increased volume of its business for some time and the necessity for larger quarters, it recently purchased the property at 457 to 461 E. Grindall St., between Cross and Hamburg Sts. and near Covington St., where it will be located on and after April 1. In the new shop the company will be able to take care of its customers' requirements even more expeditiously than it has done, and it will be in every way better equipped. With its adequate office force and a larger shop and equipment, it will be amply prepared to keep pace with the increasing demands of business and to always extend prompt and efficient service to customers. The present location of the company is at Barney and Light Sts., where it will remain until the end of March, after which it will be at the new location.

Harrison Bros.' Plant Bought by Du Ponts.

The stockholders of Harrison Brothers & Co., Inc., manufacturers of paints, with a plant on Gray's Ferry Road, Philadelphia, have ratified the proposed sale to E. I. du Pont de Nemours & Co. of Wilmington, Del., for \$5,700,000 in cash, the purchasers assuming all outstanding obligations. The business will be conducted by a new corporation, Harrison's, Incorporated, application for a charter having been made in Pennsylvania, the incorporators being Lamont du Pont, Dr. Chas. L. Reese and Chas. A. Meade, of the du Pont Company; A. R. Glancy and William Richter, Secy., of the Harrison Company. The plant on Gray's Ferry Road covers 40 acres and has 80 buildings, which include a model lead plant of 10,000 tons annual capacity. Since the war began the demand for chemicals caused the Harrison company to organize the Mantua Chemical Co. on 250 acres at Paulsboro, N. J., and, besides this, the company also owns a plant at Sixth and Jackson sts., Camden, N. J., and a pyrites mine in Virginia. This deal will result in a union of two of the oldest manufacturing concerns in the United States, the Harrison dating from 1793 and the Du Ponts from 1802. The new owners will continue to conduct the paint business, but expansion is expected to follow in this line of manufacture, including paints, colors, varnishes and pigments, as well as chemicals. The Du Pont organization is not new to the paint and varnish business, having already engaged in the manufacture of enamels, lacquers and similar products. Many materials used in making paints and dyes have also been produced by it.

[Continued on Page 90.]

INDUSTRIAL NEWS OF INTEREST

Change of Address.

The Edison Portland Cement Co., hitherto at 1133 Broadway, announces that on March 20 its general offices were removed to 8 West 40th St., New York, where they will hereafter be located.

Use of Wire-Cut Lug Brick Extending.

The Dunn Wire-Cut Lug Brick Co. of Conneaut, Ohio, announces that the Albion Shale Brick Co. of Albion, Ill., has been added to its list of licensees, which now number forty-four, operating sixty-nine plants in twelve States.

Sale of Orangeburg Manufacturing Co. Property.

The postponed sale of the plant and other property of the Orangeburg Manufacturing Co., Orangeburg, S. C., will take place at noon, April 19, at the courthouse in Orangeburg, according to announcement by the receivers published in the advertising columns.

Changes at Harlan & Hollingsworth's.

The Harlan & Hollingsworth Corporation, builders of steel vessels, marine boilers, engines and passenger cars, Wilmington, Del., announce some changes in consequence of the recent sudden death of Mr. Harrison Weir, secretary. Mr. Frank N. Grigg, of Richmond, Va., who is well known among railroad men, and who for several years has represented the company in the Southern trade, will now look after the sales end of

the car department, and Mr. Wm. T. Thompson, superintendent of the car department, will now be its manager, Mr. Weir having heretofore acted as manager, particularly looking after the sales.

Concrete Work a Specialty.

The Corns-Thomas Engineering & Contracting Co., with offices at 617-618 First National Bank Bldg., Huntington, W. Va., is doing a general business as engineers and contractors, especial attention being given to the design of plain and reinforced concrete work, however massive, and its erection. H. C. Corns is president and C. C. Thomas treasurer of the company.

Big Louisiana Gas Well.

It is stated that the Morehouse Oil & Development Co., Monroe, La., has developed a flow of 30,000,000 feet of gas daily, in its well located three miles northwest of Wardville. This well was drilled through a contract with J. R. Littlepage of Monroe and Harper & McCann of Shreveport, who will drill another well for the company. The latter has increased its capital from \$20,000 to \$50,000 in order to undertake further developments, including plans to distribute the gas for domestic and industrial purposes.

A New Engineering Concern.

Benjamin F. Wood, for sixteen years electrical engineer with the Pennsylvania Railroad, and for the past three years vice-president and chief engineer of the United

Classified Opportunities

MINERAL AND TIMBER LANDS WATER POWERS MISCELLANEOUS PROPERTIES

ARKANSAS MINERAL AND TIMBER LANDS.—We have several thousand acres of zinc ore lands; some of these tracts are adjoining largest operating mills; every one of them in the vicinity of proven mines, and at prices that, in some cases, the timber alone will pay for the property. We have twenty-five thousand acres of virgin timber, river-bottom hardwood. The land will be worth double when timber is removed what we ask for the tract in fee-simple. Don't delay, but write us now. Tri-State Realty Co., Suite 304 Railway Exchange Bldg., Kansas City, Mo.

COPPER, ACIDWOOD AND HARDWOOD. Two copper properties, large and small tracts of hardwood, direct from owner. Large tannery, tan bark and acidwood. Address No. 3047, care Manufacturers Record.

FOR SALE.—700 acres on railroad adjoining town of 5000; textile mill site and town development or subdivision property; electric power; extensive pike frontage. Address Doak Aydelott, Tullahoma, Tenn.

SMALL WATER-POWER electric development and a reserve power undeveloped; can be bought cheap. Write for list of farms. W. D. Hill & Co., South Boston, Va.

FELDSPAR If you have or want them, and **KAOLIN.** S. F. Sherman, 52 Broadway, New York City.

MANGANESE ORE

MANGANESE ORE FOR SALE.—Small lots of manganese testing as high as 57% metallic or dioxide. Will sell in carload or greater amounts. Minimum test 35% and up to 57%; also can furnish trade with manganese scaling under 35%. In connection with the above we invite bids from those who are dealers and consumers, stating offer per ton f. o. b. cars Bromide, Oklahoma. Rate on this ore is, Chicago, \$4.78 per ton. Analysis of Carnegie and other laboratories shows manganese, 35% to 57%; phosphorus, .051% to .094%; silica, .70% to 1.20%; iron, 1.01% to 3%. Purchasers can make comparative analysis as car or cars are loaded. We will consider or entertain a proposition from those who have available money to sell an undivided interest in these properties, which are extensive and include high-grade hematite ore as well as one of the most promising manganese deposits available. Address communications to Galbreath Iron & Mining Co., 1302 South Boulder Avenue, Tulsa, Oklahoma.

IRON AND MANGANESE DEPOSITS

FOR SALE — MANGANESE. — About 800 acres manganese mineral rights in Frederick Co., Va., about 10 miles from R. R. station. Good roads. High-grade manganese ore now being mined and shipped. Property easily investigated. Chas. F. Nelson, 1945 Calvert St. N. W., Washington, D. C.

LIMESTONE

OOLITIC LIMESTONE.—For sale, 40 acres, almost solid, highest quality, 1 mile from R. R. Samples sent on request. Wm. Maloney, Owner, 215 S. 12th St., Gadsden, Ala.

COAL LANDS

COAL LANDS.—20,000 acres of the Black Creek seam in Marion county, Alabama, about 12,000 acres of which is under lease for 15 years, paying 5 cents a ton royalty and 3 cents for steam coal; minimum royalty \$2000 per year. Railroad traverses property; the average thickness of vein 30 to 36 inches. I am the owner of the property and must close out at once at a big bargain. J. E. Penney, 211-12 Chamber of Commerce Building, Birmingham, Ala.

50,000 ACRES of valuable coal land; about one-tenth of the acreage leased to four operating companies, the net income from which is about \$30,000 per year. With proper management this property will yield a very large income. Offered at an attractive price by P. A. Green & Company, 713 Mutual Building, Richmond, Va.

FOR LEASE.—Hazard, Ky., coal field. 2400 acres for lease, all or part. Address Edgerton Coal Corporation, Abingdon, Va.

4500 ACRES, carrying four seams of coal of minable thickness, well timbered, for lease. Two miles from N. & W. Rwy. Charles V. Price, Welch, W. Va.

COAL LANDS AND MINES

Mine Ready for Operation With 24,000 Acres Good **COAL LAND FOR SALE** Cheap to Close an Estate. Power plant, mining machines, cars, etc., fourteen miles of standard and narrow-gauge railroad, connecting with the Southern Railway at Lm Rock, Ala., sixty-five miles westerly from Chattanooga; four locomotives, cars, eighty dwellings and large commissary. Much valuable hardwood timber, with two good sawmills; most of the land on Cumberland Plateau suitable for agriculture when cleared; coal known as Belmont Block, very hard, high in volatile matter, excellent for domestic use. Low freight rates and best of markets. For full particulars, price and terms address F. D. Pierce, Bridgeport, Ala.

RATES AND CONDITIONS

Rate 25 cents per line per insertion. Minimum space accepted, four lines. In estimating the cost, allow seven words of ordinary length to a line. When the advertisement contains a number of long words, proper allowance should be made. Terms: Invariably cash with order; check, postoffice or express order or stamps accepted. No display type used. Questionable or undesirable advertisements will not be accepted. The assistance of our readers in excluding undesirable advertisements is requested. We reserve the right to refuse any advertisement. No patent medicine, whiskey or mining stock advertisements accepted. Rate for special contracts covering space used as desired within one year as follows: 100 lines, 23c. per line; 300 lines, 21c. per line; 500 lines or more, 20c. per line.

COAL AND TIMBER LANDS

FOR SALE.—65,000 acres timber and coal lands in Tennessee, on railway. Sacrifice price, \$2.50 per acre. Will accept one-half in exchange property. Figuers Realty Company, Columbia, Tenn.

SAWMILL AND TIMBER

FOR SALE.—Large short-leaf yellow-pine plant, complete; one of the few left with 15 to 18 years' operation in sight. Want to deal with legitimate buyers only. No commission. Address No. 3048, care Manufacturers Record.

TIMBER LAND

VALUABLE TIMBER TRACT FOR SALE on large navigable river near Wilmington, N. C.; 7500 acres in fee, in one tract, fronting four miles on river. Will cut FIFTY MILLION FEET, mostly pine, balance cypress, poplar and gum. Most of timber on four thousand acres with average haul of one mile to the river. Price attractive. Address Charles N. Riker, Union Trust Building, Washington, D. C.

FOR SALE.—1400 acres virgin timber, 3 miles from C. & O. R. R.; will cut 2,000,000 ft. lumber; white and chestnut oak and yellow pine. Price \$8500 for timber and mill. Tan bark reserved. Apply or write E. M. Smith, Jordan Mines, Va.

FOR SALE.—Section virgin hardwood timber. White oak, 5000 feet per acre; red oak, 1000; black oak, red gum and hickory, 1000; one-half level valley land, free of stone, 7 miles from railroad. \$12,000. Box 176, Heber Springs, Ark.

FIFTEEN HUNDRED ACRES long-leaf yellow pine in Heard county, Georgia; will cut 6000 feet first-class timber per acre. Price, \$17,500. A great bargain. No agents. Foster Cohen, Atlanta, Ga.

SEVERAL HUNDRED MILLION FEET of round pine timber in Florida for sale in fee-simple. Good transportation facilities. If interested, write to R. J. Taylor, Guyton, Ga.

TIMBER WANTED

WANTED.—Large tract chestnut timber; fee or stumpage. Write fully to Egerton Coal Corp., Drawer 631, Abingdon, Va.

TIMBER

TIMBER BARGAIN.—50,000,000 ft. original growth. 60% N. C. Pine, 8% cypress, 8% poplar, balance red gum, etc., on Southern Rwy. in South Carolina. Large amount of additional, contiguous, similar stumpage can be bought cheap. For particulars write J. P. Mulherin, Augusta, Ga.

FOR SALE.—About three hundred and seventy-five million feet of the highest grade and quality of virgin long-leaf yellow pine. For particulars address H. H. Wefel, Jr., Mobile, Alabama.

STANDING TIMBER.—15½ million feet original oak and pine, between Richmond and Washington; best tract in Virginia. Address Box 406, Amelia, Va.

FIFTY SECTIONS TIMBER FOR SALE. 758,000,000 feet spruce, fir and pine, suitable for pulpwood or lumber. For maps, price and other particulars address E. V. Tillson, Tillsonburg, Ontario, Canada.

FARM AND TIMBER LANDS

SOUTHERN LANDS.

We are prepared to furnish desirable farm lands, undeveloped and developed, and stocked, also hardwood and pine timber and cut-over lands, in any size tract wanted, in Ala., Miss. and La. These lands are exceptionally cheap and offer an attractive opportunity for investment. We also have some large farms to trade for city property. We are anxious to get in touch with people interested in these classes of properties and solicit correspondence. Bailey-Jones Real Estate & Ins. Co., Birmingham, Ala.

4000 ACRES, half timber and half cut-over land, for sale, preferably as a whole or in tracts of not less than 1000 acres each; property joins the town of Surrency, Appling county, Ga., on Southern Railway main line; fine stand of both pine and cypress timber; ideal location for stock farm or combination mill and colony farming. Land in vicinity noted for its record production of staple crops. For sale by owner, attractive price and terms, especially if bought as a whole. Wm. Hurd Hillyer, Atlanta, Ga.

FARM AND TIMBER LANDS

WE OWN LARGE TRACTS OF TIMBER LANDS, cut-over lands and colonizing lands. If interested, address H. H. Wefel, Jr., & Co., Mobile, Alabama.

CATTLE RANCH

CATTLE RANCH FOR SALE. 67,000 acres improved ranch, stocked with high-grade Hereford cattle, at a bargain. 31,000 acres at \$3.40 per acre. 7,500 acres at \$4.00 per acre. 30,000 acres leased for a term of years. Cattle will be sold at low figure to purchaser of ranch. \$35,000 cash will handle ranch. Address Box 40, Marfa, Tex.

STOCK FARMS

FOR SALE.—Ten thousand acres especially well adapted for a ranch, located South Alabama. If buyer stocks ranch, would require no payment for three or four years. Address H. H. Wefel, Jr., Owner, Mobile, Ala.

FARM AND GRAZING LANDS

WE HAVE FOR SALE 328 farms in Piedmont Virginia and Northern Maryland, ranging in price from \$1000 to \$100,000, many of which are in a high state of cultivation, for general farming, grazing, orcharding and dairying. W. W. Briggs & Son, Orange, Va.

HOMESTEADS AND FARM LANDS

OREGON & CALIFORNIA RAILROAD CO. GRANT LANDS.—Title to same vested in United States by Act of Congress dated June 9, 1916. Two million three hundred thousand acres to be opened for settlement and sale. Power site, timber and agricultural lands. Containing some of the best land left in United States. Now is the opportunity time. Large sectional map showing lands and description of soil, climate, rainfall, elevations, etc., postpaid, \$1. Grant Lands Locating Co., Box 619, Portland, Ore.

COUNTRY HOME

FOR SALE OR EXCHANGE. Magnificent modern country home, 10 acres, 15 rooms, gas, electricity, sewerage, fine water supply, 3 bathrooms, hot-water heat, servants' quarters, individual phones, garage, stable, barn, chicken-houses, in first-class condition. Garden, asparagus, strawberries, young orchard, all fruits, flowers, beautiful shade. Overlooking Washington, 30 minutes U. S. Treasury by electric cars, 15 minutes auto, 10 minutes steam road. Price \$30,000; terms if desired. O. B. Zantlinger, Washington, D. C.

TOWNSITES

ATTENTION, Townsite Men!—The Midland & Northwestern Rwy. Co., now building, offers one or all of its townsites, located between Midland and Seminole, for sale. Address T. J. O'Donnell, President, Midland, Texas.

FRUIT, FARM AND TRUCK LANDS

ALABAMA

ALFALEA LAND.—I own 4360 acres of Houston clay land in Green county, Alabama, in the heart of the famous alfalfa district, about two miles from Eutaw, the county seat. The Queen & Crescent Railroad traverses the property, with Harriston, a local station, on the tract. This farm is equidistant between Black Warrior and Tombigbee rivers, forming a beautiful stretch of valley land, containing 60 to 80 tons of lime to the foot depth of soil to the acre. Entire tract \$50 an acre. In addition to the above, I own 50,000 acres of Alabama farming lands, which I will sell in any size tracts desired. My listings in timber lands embrace the best that are left in Alabama. J. E. Penney, Chamber of Commerce Building, Birmingham, Ala.

NOTICE.—Good farms for sale, both large and small, at a bargain, in Wilcox Co., Ala. Also 4000 acres of cut-over lands at \$6 per acre. Well located. J. A. McClurkin, Camden, Ala.

CUBA

WANTED.—Descriptions of everything now for sale in Cuba. No charge for listing properties. Commission expected only when purchaser is found by advertiser. Francis Wm. Hartley-Hellyer, Baltimore, Md.

FLORIDA

FLORIDA.—Do you intend visiting the land of health and sunshine this winter? If so, write M. J. Hoehnig, Prop. Hotel Palms, West Palm Beach, Fla., for instructive booklet.

FLORIDA

FREE. "THE WINTER GARDEN OF AMERICA," to Fruit Growers, Truckers, General Farmers, Cattle, Hog and Poultry Raisers. Folks interested in the great Indian River Section of Florida, write Indian River Farms Company, Suite O, 609 Putnam Bldg., Davenport, Iowa.

REAL ESTATE BARGAINS.

For high-grade orange groves, winter homes, city property, timber tracts, Florida cattle ranches and other properties of all kinds consult The Waring Realty Co., Orlando, Fla.

FOR A SAFE and permanent investment Florida lands and values should interest you. Manatee County is the best location, and is destined to become one of the most progressive settlements in the State and a very profitable investment. Florida farms in Manatee County are below frost belt; have rich soil, with 365 producing days. Easy terms. J. Henry Strohmeier, Maryland Casualty Tower Building, Baltimore, Md., and Sarasota, Florida.

FOR SALE.

6500 ACRES IN FLORIDA. WHOLESALE PRICE. WILL NOT RETAIL. Located on the East Coast, in Volusia County; price \$6.50 per acre; \$1 per acre down, balance \$1 per acre per year, 6 per cent. interest on deferred payments; 8 miles west of New Smyrna, Fla.; on the Orange City branch of the Florida East Coast R. R.; Indian Springs Station is only ¼ of a mile from it; 2550 acres are "prairie land." Has an elevation of about 22½ to 41 feet above the tide-water; top soil is a black sandy loam, underlaid with clay. Would make an ideal stock range. There are forty families farming in the adjoining sections; some have raised 45 to 50 bushels of corn to the acre, 50 barrels of Irish potatoes, and all kinds of garden truck, such as lettuce, beans, peas, Bermuda onions, besides good crops of rice, oats and grasses for feed. Title good. Owned in fee-simple, without incumbrance. Other information will be furnished upon request by E. C. Howe, 747 Hartford Bldg., Chicago, Ill.

GEORGIA

2700 ACRES of fine dairy or cattle land 1 mile from Savannah can be bought at \$1 per acre. A bargain. Skeffington & White, Savannah, Ga.

FOR SALE.—230 acres farm and orchard land, one-half mile from station. Price \$3000. L. H. Allen, Turnerville, Ga.

INDIANA

FARM FOR SALE.—145 acres, 1 mile north of Princeton, Indiana. Improved roads; traction station on the farm; telephone service. 110 acres in cultivation, balance in blue-grass sod, in walnut and sugar woods pasture. Good improvements. Dr. John R. Mitchell (owner), Evansville, Ind.

MARYLAND

FOR SALE.—Two farms on the Eastern Shore of Maryland; land level and easy to till; shipping facilities excellent; schools and churches convenient. Drawer C, Pocomoke City, Md.

TEXAS

MONEY can't be used to better advantage now than investing it in South Texas land. There is no speculation in it. You will know so a year from now. I give you here a few good buys: 2933 acres of fine agricultural land, located in a proven oil district; price \$10 per acre; terms. 1000 acres improved stock farm, between Austin and San Antonio; 200 acres tillable land; one mile river front; across the river is constructed a solid dam of rock masonry, giving 35 to 40 horsepower, which operates a large turbine wheel, a gin, press and grist mill, and sufficient water to irrigate at least 50 or 75 acres; a large lake is created by the dam, furnishing good fishing. The community is a good one. Nature has put its charm to this spot, and could be developed and made a real paradise for man on earth. The price placed on this desirable property—only \$16.50—is very low. This is the biggest bargain in Texas. Write me your wishes; state in your first letter what size tract you want, agricultural or ranch land; what capital you have to invest. I have improved farms, small and large, colonization tracts from 2000 to 25,000 acres, ranches of 5000 to 30,000 acres, at prices from \$4.50 to \$20 per acre. Suitable terms given. Act now. Write B. P. Hintze, 214 East 4th Street, Austin, Texas.

FIVE THOUSAND (5000) acres cut-over pine land; eight (8) miles from county seat; good, natural drainage, good water, good roads. School and church on tract; adjoins a sawmill town of eight hundred (800) people; located on the Gulf, Colorado & Santa Fe R. R. Will grow corn, potatoes, peanuts, sugar-cane, melons and all kinds of garden truck. Can sell 2500 or 5000 acres; title perfect. \$2 per acre cash and balance to suit. If subdivided, will release as sold. Eight hundred and fifty-seven (857) acre farm on Southern Pacific Railway, fourteen (14) miles west of Beaumont, Texas; 2½ miles from China and 2 miles from Noma, Texas, stations on the S. P. Ry. Land fronts on the macadamized road from Beaumont to Houston. Has two sets of improvements; one set good; fenced, laterals through land. Can sell 300 acres off front, with improvements. Bonded at \$16.50 per acre. Will take small cash payment, balance to suit. Address Guy W. Junker, 359 Bowie St., Beaumont, Tex.

FRUIT, FARM AND TRUCK LANDS

TEXAS

500 ACRES in Victoria County, Texas; 2 1/2 miles from station; 140 acres in fine state of cultivation; about 100 acres in timber, balance prairie; creek fed by never-failing spring; 5-room house, barn, crib, etc.; house for help on back of farm; good well of water at each house; artesian water from 500 to 800 feet; fields fenced separate from pasture; land lies level, is dark, sandy sediment soil; splendid farming, fruit-growing or gardening land. Price \$30 an acre. Can lease this land for a term of ten years at 7 per cent. on the investment. Rent payable cash in advance each year. W. W. Miller, Cattleman's Exchange, San Antonio, Texas.

TO CLOSE AN ESTATE.

Must sell at once 1000 acres fine farm land on paved road near HOUSTON, TEXAS. Price, if sold before other financial arrangements are made, \$25 per acre. Adjoining lands have been sold during past two years at \$40 to \$60 per acre.

Write or wire me about it today.

ROY B. NICHOLS,

202 1/2 Main St., Houston, Texas.

FOR SALE—137 acres good improved black land near a graded road and 2 1/2 miles from railroad station, Live Oak County, Tex., at \$25 per acre. If interested, write R. H. Weatherly & Co., Whitesett, Tex.

VIRGINIA

SPLENDID 400-ACRE Virginia farm; beautiful 10-room dwelling in large, shady lawn. Convenient to town, on public road. Will exchange for Chicago property. Pollard & Bagby, Inc., Richmond, Va.

SEE photo and read description of "Old Fort Lewis" in this issue of Manufacturers Record on page 92, and write for full particulars. Address Spindle & Craig, Roanoke, Va.

VIRGINIA FARMS, Loudoun, Fauquier and Fairfax Counties fine grain, grass and stock farms. Country estates, dairy, poultry and fruit farms. John Hill Carter, Leesburg, Va.

2700-ACRE FARM on James River, Va.; deep-water facilities; 1700 acres fine timber; 1000 acres high state of cultivation; well equipped; new barns, etc.; splendid rich man's estate. Apply for price, Green & Redd, Richmond, Va.

LARGE STOCK AND DAIRY FARM, 700 acres; 7 miles from Washington. Unusually attractive proposition.

Potomac River properties, large and small. Near to Washington estates and farms; also country villas, some of which are for rent, furnished or unfurnished, for the summer season.

F. L. Slaymaker, Alexandria, Va.

SHENANDOAH VALLEY

OF VIRGINIA.

Where Blue Grass and Alfalfa Grow.

In the heart of the Apple Belt.

Delightful climate.

Fertile Soil.

Write John M. Londerce,

Staunton, Va.

STAUNTON RIVER FARM.—520-acre Virginia Farm for sale; grain, tobacco and hay land; pine, oak and poplar timber, and cross-ties. Land under cultivation, watered and fenced. Address G. C. Stone, Hurt, Va.

ATTORNEYS

RAYMOND M. HUDSON,

Attorney, Washington, D. C. Practice before U. S. Supreme Court, U. S. Court of Claims, D. C. Court of Appeals, D. C. Supreme Court, Va. and Md. Courts, Executive Departments, Congressional Committees, Federal Reserve Board, Federal Trade Commission, Interstate Commerce Commission. Cable "Rayhud."

FINANCIAL

WANT TO BORROW—About \$10,000 on first mortgage on several hundred acres of high-class farm lands to extend large development enterprise. Will pay 6% and one-way fare to investigate proposition. Best of bank reference on application. Florida-Michigan Highlands Co., Auburndale, Fla.

INCORPORATING COMPANIES

CORPORATIONS ORGANIZED under the broad, liberal and substantial laws of Delaware. Minimum original and annual expense. Estimates cheerfully furnished. Write for our revised DIGEST of the law. CORPORATION COMPANY OF DELAWARE Equitable Building, Wilmington, Del.

BUSINESS OPPORTUNITIES

VIRGINIA factory building. Owners will take stock in establishing business in their plant on main line two railroads with sidings; large 2-story building, 3 acres ground, office building, stable and 14 building lots; value \$20,000. Va. Land Bureau, Inc., Roanoke, Va.

BUSINESS OPPORTUNITIES

RICHMOND, VA.

Read Babson's statistical report of Richmond. Read Richard L. Rowe's "Richmond is first in its population class." Richmond gained \$34,746,000 in value of factory products from 1905 to 1915, or an average rate of 12 1/2% annually for entire decade. Richmond shows a greater increase by 50% to 75% than a number of cities in the North, East, West and South of much larger population. To attain to the position noted above is indisputable evidence that her facilities are superior and her resources ample. Richmond has some of the largest enterprises of the kind in the United States. Richmond is the home of the Federal Reserve Bank for the Fifth District. Richmond is virtually the Southern end of the great Pennsylvania Railroad. From here to the South the Southern Railway, Atlantic Coast Line and Seaboard Air Line radiate. The Chesapeake & Ohio Railroad, operating with the "Big 4," connects the great West with Richmond and the Chesapeake Bay. The Norfolk & Western Railway, only 20 miles distant, through connection with Atlantic Coast Line, Seaboard Air Line and Southern railways, compete for the Western and Eastern business of Richmond. Richmond has deep-water transportation to the sea, about one hundred miles, by way of James River. This gives Richmond the great advantage of "break" in freight rates.

To capitalists and others we extend an invitation to visit Richmond and let us show them some of the possibilities for profitable investment.

Our Real Estate Department is in position to advise you about desirable opportunities in the purchase of property promising enhancement in values, to advise as to character of buildings and locations, to produce present and increasing returns.

Richmond Trust and Savings Company (Capital One Million Dollars), Real Estate Dept., O. A. Hawkins, Manager, 7th and Main Sts., Richmond, Va.

WANTED—Partner with from six to eight thousand to invest with like amount in a lucrative manufacturing business. For particulars address Box 304, Anniston, Ala.

DISTRIBUTORS.

We are prepared to act as distributors for a few reliable concerns. We have the very best of railroad facilities for this section. We have a large warehouse for general storage. Southern Bonded Storage Co., Box 647, Charlotte, N. C.

WHEN interested in buying or selling real attractive investment propositions, write Investment Service Dept., Roger A. Jennings & Co., Greensboro, N. C.

WE WANT to get in touch with responsible real estate, insurance, bankers, brokers, financial and investment agents who will aid us in handling our clients quickly and intelligently in your section. Write us your facilities for handling business. Help us in perfecting our service system and you help yourself. Roger A. Jennings & Co., Financial and Investment Agents, Greensboro, N. C.

HAVE YOU CASH to put in safe investment in Florida netting 10 per cent. and better? Address No. 3009, Manufacturers Record, Balto., Md.

DRUG STORE FOR SALE.—Finest store in South Texas. Best harbor on Gulf coast. Mild winters, cool summers, healthy climate; only store. Sales \$15,000. Terms, \$4000 cash, balance good, clear land. A sure snap. Aransas Drug Co., Aransas Pass, Texas.

PARTNER WANTED.—A man to give his time and invest in a sanitary well bucket and curbing. I have only one of its kind. Can make \$5000 first year. Box 245, Gadsden, Ala.

INDIVIDUAL wishes to incorporate factory for additional capital from \$5000 to \$15,000. The sale of output is guaranteed. Location, Kentucky, in a thriving city. Active manager with a thorough knowledge of oak and lumber to take charge. Address No. 3041, care Manufacturers Record, Balto., Md.

FOR SALE—Property especially suited for sanitary use; has an income of \$1000; water-tight building sufficient to pay running expenses and 6% on amount asked for this property. It will pay to investigate. M. S. Bennett, Crockett, Va.

FOR SALE—Wholesale hardware business in best town in Southeast. \$20,000 annual net profits; \$100,000 merchandise. Two-thirds of this amount will purchase business which is growing. Write Acn Agency, Gadsden, Ala.

FOR SALE—Store, house and stock goods; 33 acres land; 7 living-rooms, storeroom and storage-room; good barn; store stand for 20 years. Price of buildings and land \$3000. Stock goods to be inventoried. Stand will sell \$20,000 worth goods each year. Address No. 3062, care Manufacturers Record.

A VALUABLE parquet floor factory wants a live, thoroughly experienced lumber man to take charge and make investment on a bonafide proposition. Output of factory is guaranteed. Location of factory is one of the finest in the Southwest. Address No. 3041, care Manufacturers Record, Balto., Md.

USE our Investment Service Dept. for handling your business in the Southern and Eastern States. Reliable personal representation affords you confidential and efficient service. Roger A. Jennings & Co., Financial and Investment Agts., Greensboro, N. C.

ELKTON HOTEL FOR SALE, ELKTON, VA. SUMMER RESORT. On Norfolk & Western Railway, 100 miles south of Hagerstown, 4 1/2 hours from Washington. Elk lithia water. Suitable for sanatorium. 75 rooms. Fully equipped and in good repair. 10 acres. \$20,000. One-third cost to close partnership. Address D. C. Graham, Harrisonburg, Va.

BUSINESS OPPORTUNITIES

LEARN to organize and promote stock companies. Greatest money-making business. Field about you unlimited. Now is the time. Our booklet will tell you how. Price \$1. National Security Co., 413 Temple Court, Chattanooga, Tenn.

SOME ENTERPRISING TOWN by prompt action can secure an unusually desirable manufacturing establishment. Unlimited market. Used everywhere. Liberal profits. Inexpensive equipment. Almost any wood-working plant can manufacture the article, which is a new invention and patented window screen. Waste wood can be largely used. Address Owners, Ludbeck & Murray, 172 N. Water St., Rochester, N. Y.

ENGINEERING and surveying business for sale. Business increasing and is ideal Virginia location for health and business. Price \$500 cash. Address No. 3065, care Manufacturers Record, Balto., Md.

WANTED—Party to furnish \$5000 or \$10,000 to finance a contracting business. U. S. Post-office work; have had plenty of experience; only need capital; young man preferred. Address No. 3067, care Manufacturers Record.

WILL PURCHASE desirable electric-light or gas property having established earnings, or finance consolidation of a group of such properties. Advise concerning present annual gross earnings and franchise conditions. Treasurer, P. O. Box 1136, Providence, R. I.

WANTED.—President and treasurer in an established profitable woodworking factory desire to dispose of half of authorized capital stock of \$50,000, heretofore unsold, in order to meet demands of present business and increase production. Dr. Walter J. Quick, Box 864, Roanoke, Va.

ON ACCOUNT OF HEALTH will sell an exclusive business proposition that will pay enormous profits; no competition; patented article of a changeable advertising nature. Unless you can command at least \$10,000, don't answer. Address No. 3062, care Manufacturers Record, Balto., Md.

BUILDINGS—STEEL PORTABLE

"PRUDENTIAL" STEEL BUILDINGS for all purposes; portable one-story construction; workshops, toolhouses, storage, garages, bunkhouses, etc. Write for Catalog A. C. D. Pruden Company, Baltimore, Md.

PATENT ATTORNEYS

EGENE C. BROWN, ENGINEER AND PATENT LAWYER, 731 Eighth St. N. W., Washington, D. C. Graduate Engineer, Lehigh University; Member Bar U. S. Supreme Court; Former Examiner U. S. Patent Office. PATENTS AND TRADEMARKS. Inventions considered from engineering and legal standpoints. Infringements and extent of patent monopoly investigated for manufacturers. Glad to answer any inquiries.

HIGH-VALUE PATENTS.

Patents that fully protect. Patents that Pay Largest Financial Returns are the kind we obtain. Reference. SUCCESSFUL Inventors and WELL-KNOWN Manufacturers. Send 8 cents for new book of extraordinary interest and value to inventors. R. S. & A. B. Lacey, 93 Barrister Building, Washington, D. C. Established 1869.

PATENTS.—Write for how to obtain a patent, list of patent buyers, and inventions wanted. \$1,000,000 in prizes offered for inventions. Send sketch for free opinion as to patentability. Our four books sent free upon request. Patents advertised free. We assist inventors to sell their inventions. Victor J. Evans Co., Patent Attorneys, 712 Ninth St., Washington, D. C.

PATENTS—TRADE-MARKS.—Highest professional service. I personally examine the Patent Office records in regard to and personally prepare and prosecute every application filed through my office. Highest references. Booklet, "The Truth About Patents," and honest advice free. J. R. Kelly, Patent Attorney, 750 Woodward Bldg., Washington, D. C.

INVENTIONS—PATENTING AND PROMOTING.—A book containing practical advice and directions for inventor and manufacturers. Book suggestions and advice free. Lancaster & Allwine, Registered Attorneys, 265 Ouray Bldg., Washington, D. C.

PATENTS

THAT PROTECT AND PAY. Advice and books free. Highest references. Best results. Promptness assured. Trade Marks registered. Watson E. Coleman, Patent Lawyer, 624 F St., Washington, D. C.

POSTAL will bring free booklet telling all about patents and their cost. Shepherd & Campbell, Patent and Trade-Mark Attorneys, 732 8th St., Washington, D. C.

PATENT YOUR IDEAS.—\$9000 offered for certain inventions; book, "How to Obtain a Patent," and "What to Invent," sent free upon request; send rough sketch for free report as to patentability. We advertise your patent for sale at our expense. Chandler & Chandler, Patent Attorneys, 978 F St., Washington, D. C.

Patents secured or fee returned. Actual search and report free. Send sketch or model. 1917 Edition, 90-page patent book free. Personal and prompt service. My patent sales service gets full value for my clients. George P. Kimmel, 288 Barrister Bldg., Washington, D. C.

PATENT ATTORNEYS

PATENTS and TRADEMARKS. Procured by a former Examining Official of the U. S. Patent Office. NORMAN T. WHITAKER, Attorney-at-Law, Mechanical Engineer, 31 Legal Bldg., Washington, D. C. (Opposite Patent Office.) Inquiries Invited.

INDUSTRIES WANTED

TEXTILE PLANTS

ALBANY, ALABAMA (formerly New Decatur), is in the cotton and iron district of Northern Alabama. On two trunk-line railroads and the Tennessee River. Offers special inducements for big and small industries. Very favorably located for all factories using cotton or cotton goods. Cheap gas, water, light and electric power. Fine opportunities here for skilled operators with limited capital to establish their own business. Financial assistance will be rendered if necessary. Albany is a modern city with 10,000 population and every convenience. Address Board of Commerce, Albany, Ala.

MISCELLANEOUS

SISTERSVILLE, W. VA., on the B. & O. R. R. and Ohio River, situated in the steel district of the United States, offers to all manufacturers: Electric power at 1/2c per K. W. H., free factory sites up to thirty acres, 8c. natural gas, \$1.25 coal, and other equally cheap natural resources. It is the richest city in the United States per capita and one of the best governed. But this is not all. It possesses men whose co-operation is offered financially and otherwise—the type you will want to associate with as a business executive. Write Secretary Chamber of Commerce.

CARLISLE, PENNSYLVANIA, wants men; men of enterprise; men of vision who can establish rated industries. Co-operation will be given to the fullest extent. One of the lowest electric-power rates in the country. Baltimore freight classification. Educational advantages beyond the average city of 10,000 inhabitants. Address Carlisle Chamber of Commerce.

LOCATION WANTED

ANY TOWN desirous of securing an industry that can be started with very small outlay of money and built up to large proportions in a comparatively short time, please communicate with the undersigned and particulars will be furnished. The article is a new invention and patented window screen, and is without question superior to anything of the nature on the market. Unlimited market. Good profits. Simple and easy to make. Almost any woodworking plant can be utilized. Address Owners, Murray & Lindbeck, 172 N. Water St., Rochester, N. Y.

FACTORY SITES

BALTIMORE FACTORY AND TERMINAL SITES.—Statement of Asa G. Candler, President The Coca-Cola Co.: "Investigation convinced us that Baltimore is not only the commercial metropolis for Southern trade, but that it affords shipping opportunities both by water and rail for domestic and foreign traffic superior to any of the great cities in any section of the United States." Locate in Baltimore and derive these advantages. We can provide accommodations to meet your requirements.

"OUR MOTTO":

FACTORY AND TERMINAL SITES

IN BALTIMORE.

Wm. Martlen & Co.,

Ninth Floor, Lexington St. Bldg., Balto., Md.

VIRGINIA manufacturing plant; large 2-story building on main line two railroads; 3 acres ground, office building, stables; 14 building lots; value \$20,000. Will take stock in properly established manufacturing business. Va. Land Bureau, Inc., Roanoke, Va.

INDUSTRIAL PLANTS FOR SALE

MANUFACTURING PLANTS

FOR SALE—Manufacturing plant, located at Avoca, Tennessee, on Southern Railroad, 3 miles from Bristol. Three main buildings, sizes 50 by 200 feet, 50 by 70 feet and 38 by 100 feet; fire hydrant; brick foundations; heavy timber construction; good repair; 12 acres of land; suitable for woodworking or other manufacturing; Bristol freight rates; at one-third original cost. Address H. E. Jones, Trustee, Bristol, Virginia.

BOX FACTORY AND SAWMILL

FOR SALE OR LEASE.—Operating in good territory, but needs experienced box man with some capital. Labor and lumber plentiful. Power 1c the kilowatt. Alabama Box & Lumber Company, Montgomery, Ala.

GLASS FACTORY

FOR SALE OR LEASE—Glass plant at Avant, Okla. Ready for immediate operation. Write for full particulars to owner, A. W. Henderson, Avant, Okla.

CIGAR FACTORY

FOR SALE—Cigar factory, complete, making good money; everything established, customers, salesmen, stock; nothing to do but take your seat at the desk and go ahead. Address Florida Brokers Co., P. O. Box No. 892, Jacksonville, Fla.

Classified Opportunities

INDUSTRIAL PLANTS FOR SALE

CYPRESS SHINGLE MILL

WE HAVE 50,000 daily-capacity cypress shingle mill now in operation with sufficient cutting now owned to run three years. Additional timber available at very reasonable price. Price and terms furnished on application. Books will be open to examination by any responsible inquirer. Address Treasurer, Box 54, Leesburg, Fla.

MEN WANTED

"THE RESPECT AND APPRECIATION of his efforts that employers have is worthy of notice." Extract from letter referring to R. W. Bixby's Special Service. Such distinguished, third-party recommendations are significant. Established 1910. Covers preliminary negotiations only, by correspondence. Positions between \$2500 and \$25,000 exclusively. Strictly confidential. Ask for explanation. R. W. Bixby, El Niagara Square, Buffalo, N. Y.

OIL MAN WANTED.—Good opening in manufacturing department for young man who has had practical experience in compounding and testing lubricating and motor oils. Address Cataract Refining & Mfg. Co., Buffalo, N. Y.

MEN WANTED

YOUNG MARRIED MAN with first-class knowledge of bookkeeping on voucher plan, and preferably with experience in books of fertilizer plant, wanted to take charge of set of books at once. Must be man of sterling qualities, healthy, and free from bad habits. Right man will have good chance of advancement with parent company, which owns many plants. Recommendations necessary, and they must come direct from party or parties recommending. A good chance for a clean, efficient man. Address No. 3061, care Manufacturers Record, Balto., Md.

WANTED—SALESMEN.—I want 50 men to sell sanitary well bucket and curbing combined; commission and royalty. You get \$5 each sale. Box 245, Gadsden, Ala.

I WISH to communicate with an experienced charcoal burner who is open for offer to work in Burke County, N. C. Drawer 189, Lincolnton, N. C.

AGENCIES WANTED

LONDON merchant, established 15 years, is willing to represent American house, manufacturers, or firm of exporters; first-class references. Glogau & Co., 21 Mincing Lane, London, E. C.

SITUATIONS WANTED

YOUNG MAN, 35 years old and married, would like to connect with some large corporation. Formerly with a textile mill and a supply house. Fourteen years' experience in accounting, purchasing, selling and finances. Special work and study in cost accounting, systematizing, business economics and law for past three years for purpose of connecting with a large firm in an executive capacity. L. Drawer 429, Newberry, S. C.

WANTED—Position with construction company as Supt. applying asphaltic oils or tar binders on roads and streets. Familiar with all machines that will handle same. First-class reference. Address H. E. Plyley, 403 Bank and Trust Bldg., Knoxville, Tenn.

SALES ENGINEER, M.E., 39, with 8 years' experience, desires position. Would like to represent manufacturer on salary and commission. Understand the design of heating, plumbing and power-plant equipment. Can also handle construction work. Member of several engineering societies and well acquainted with the trade in New York. Address No. 3059, care Manufacturers Record.

WANTED—Connection with farm broker in South Ga., Miss., La. or Ark. Salary or salary and commission. Ten years' experience as salesman. Best of reference. Virginian, Box 187, Martinsville, Va.

OFFICE EQUIPMENT

BARGAINS.

Adding machines, calculating machines, duplicating machines, rotary mimeographs, addressing machines, check writers, envelope sealers, etc. All makes, new, used and rebuilt. Every machine guaranteed in perfect mechanical order. Collins & Co., 1324 Arch St., Philadelphia, Pa.

MACHINERY AND SUPPLIES

BOILER

BOILER BARGAINS.

50 H. P. return-tubular, 110 lbs.; 100 H. P. return-tubular, 100 lbs.; 125 H. P. return-tubular, 110 lbs. 20 other boilers, all sizes and types. Southland Machinery Company, Knoxville, Tenn.

TINNER'S OUTFIT

FOR SALE—One tinner's outfit, complete; never been uncanted; decided not to open up after same was bought. Box 245, Gadsden, Ala.

STEAM HEATING SYSTEM

STEAM HEATING SYSTEM. Used two seasons; pipe connections, 35 radiators, American Radiator Co.'s steam heater No. 8, 36-3, 4200 feet of radiation. \$500 f. o. b. Pine Bluff, Ark. Address Box 2002.

PROPOSALS

BOND ISSUES

BUILDINGS

PAVING

GOOD ROADS

More Southern Proposal Advertising Is Printed In The Manufacturers Record Than In Any Other Paper

Bids close March 28, 1917.

POSTOFFICE DEPARTMENT, Washington, February 23, 1917. Sealed proposals in duplicate will be received at the office of the Purchasing Agent of this Department until 10 o'clock A. M. Wednesday, March 28, 1917, for furnishing Stationery (including Inks and Mucilage, Pens and Penholders, Pencils, Erasers, Knives and Shears, Typewriters and Supplies, Duplicating Devices and Supplies, Rubber Goods and Miscellaneous Supplies); Computing, Baling, Addressing, Numbering, Opening, Adding, Check Writing and Perforating Machines; Time Recorders; Rubber and Steel Stamps, and Inks, Pads and Racks for same; Seals; Hardware (Tin Cans), Scales, Copying Presses, Baskets, Trucks, Pushcarts, Metals, Time Cards and Time-Card Frames, Packing Boxes; Twine and Cordage; Electrical Supplies (Motors, Carbons, Fuses); Oils and Chemicals; Household Supplies, as they may be ordered for the use of the postal service from time to time during the fiscal year beginning July 1, 1917, and ending June 30, 1918, and also during the period beginning July 1, 1917, and ending December 31, 1917. Blanks for proposals, with specifications and instructions to bidders, will be furnished upon application to the Purchasing Agent. A. S. BURLISON, Postmaster-General.

Bids close April 16, 1917.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C., March 17, 1917. Sealed proposals will be received at this office until 3 P. M. April 16, 1917, and then opened, for new roof and miscellaneous repairs for laundry building, Bureau of Engraving and Printing, Washington, D. C., in accordance with the specifications and drawings Nos. 100-B, 400-B and 401-B, copies of which may be had at this office, in the discretion of the Supervising Architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close May 15, 1917.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C., March 20, 1917. Sealed proposals will be opened in this office at 3 P. M. May 15, 1917, for the construction complete of the United States postoffice at Columbia, S. C. Drawings and specifications may be obtained after April 3, 1917, from the custodian of site at Columbia, S. C., or at this office, in the discretion of the Acting Supervising Architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close May 1, 1917.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C., March 20, 1917. Sealed proposals will be opened in this office at 3 P. M. May 1, 1917, for the construction of the United States postoffice at Commerce, Tex. Drawings and specifications may be obtained from the custodian of the site at Commerce, Tex., or at this office, in the discretion of the Supervising Architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close April 18, 1917.

GOVERNOR'S ISLAND, N. Y. H. Sealed proposals, in triplicate, for furnishing coal, forage and straw and gasoline (three months' and a year's supply), and wood, mineral oil, beef and mutton, required in Eastern Department during year commencing July 1, 1917, will be received here until 11 A. M. April 18, 1917. Information furnished on application to Department Quartermaster.

PROPOSAL ADVERTISING INFORMATION

RATE: 25 cents per line per insertion.

PUBLICATION DAY: Thursday.

FORMS CLOSE 9 A. M. Wednesday. Copy received later cannot be published until issue of following week.

NIGHT LETTER: When too late to send copy by mail to reach us by 9 A. M. Wednesday, forward by night letter.

THE DAILY BULLETIN OF THE MANUFACTURERS RECORD:

Published every business day; gives information about the industrial, commercial and financial activities of the South and Southwest.

The Daily Bulletin can be used to advantage when copy cannot reach us in time for publication in the Manufacturers Record before bids are to be opened, or when daily publications are necessary to meet legal requirements.

The same rate applies—25 cents per line per insertion.

Bids close March 30, 1917.

\$37,500 5% Bonds

Sealed bids will be received by the City Council of Tarpon Springs, Florida, at the City Hall, until March 30, 1917, at 2 P. M., for the purchase of \$37,500 City of Tarpon Springs 5 per cent. 30-year coupon bonds in \$500 denomination. The proceeds of said bonds to be used as follows:

\$15,000 for extension and improvement of sewer system.

15,000 for extension and improvement of public water system.

7,500 for extension and improvement of streets and parkways.

All bids must be accompanied with \$1000 certified check. The City Council reserves the right to reject any and all bids.

Address

E. F. ALBAUGH,
City Clerk,
Tarpon Springs, Florida.

Bids close March 30, 1917.

\$1,365,000 5% Bonds

McDOWELL COUNTY, WEST VIRGINIA. The County Court of McDowell County, West Virginia, will receive sealed bids for \$1,365,000 Five Per Cent. Road-Improvement Bonds, issued for account of the Adkins, Browns Creek, Elkhorn and North Fork Districts of said county, until March 30, 1917, at 11 o'clock A. M., at which time the bids will be opened in the office of the Clerk of the County Court in the Court House at Welch, West Virginia.

These bonds are issued in four series (one for each District) of denominations of \$1000 and \$500; are dated January 1, 1917, interest payable semi-annually. Bonds are payable serially, a proportionate part being paid off each year. Each bid must be accompanied by a certified check for \$500.

The County Court reserves the right to reject any and all bids.

For further information apply to

W. W. WHYTE,
Clerk County Court,
Welch, West Virginia,
March 1, 1917.

Bids close April 9, 1917.

\$35,500 5% Bonds

Charlotte C. H., Va., March 16, 1917. The undersigned, acting as a committee of the Board of Supervisors of the County of Charlotte, Va., offer for sale \$35,500 of Charlotte County bond issue, authorized by an act of the General Assembly of Virginia, approved March 13, 1912, as amended by an Act approved March 17, 1916, to provide for the improvement of public roads in Roanoke District in Charlotte County.

Said bonds consist of 71 coupon bonds of \$500 each, with interest from date of bonds, bonds bearing interest at the rate of 5 per cent. per annum, payable semi-annually, principal and interest payable at the office of the County Treasurer of Charlotte County, Charlotte C. H., Va. No bids received later than noon April 9, 1917. Said bonds dated May 1, 1917, and run 30 years, with the option of payment in 20 years. A certified check for 1 per cent. of bid must accompany each bid. The committee reserves the right to reject any and all bids.

GEO. B. RUSSELL,
R. S. CHAMBERLAYNE, JR.,
J. C. CARRINGTON,
Committee.

Bids close April 3, 1917.

\$225,000 4½% Bonds

Sealed bids will be received by the Cherokee County Highway Commission at Gaffney, S. C., until 10 o'clock A. M. on Tuesday, April 3, 1917, for the purchase of \$225,000 Cherokee County (S. C.) Road Bonds, dated April 1, 1917, of the denomination of \$500 and \$1000, bearing interest at 4½ per cent., payable semi-annually, both principal and semi-annual interest being payable in New York City and having the following maturities:

\$5,000 each year for the first ten years,

7,500 each year for the next ten years,

and

10,000 each year thereafter.

Certified check for \$5000 must accompany each bid, and the right is reserved to reject any or all bids.

W. C. HAMRICK,
Chairman.

Gaffney, S. C.

Bids close April 2, 1917.

\$30,000 Road Bonds

Sealed bids will be received until 11 A. M. April 2, A. D. 1917, by the Board of Supervisors of Madison County, Mississippi, for \$30,000 of Road Bonds of Supervisors' District Number One, Madison County, Mississippi.

Bonds will not be sold at less than par, and will bear interest at a rate not to exceed 6 per centum per annum, payable semi-annually. Both principal and interest will be payable at the office of the County Treasurer in Canton, Mississippi. Bonds are, without option, payable in 11 to 25 years after date, as provided by law.

The proceeds of sale of said bonds will be paid into the County Treasury, and bonds will be delivered as soon after sale as possible. Each bid must be accompanied by a certified check, payable to D. C. McCOOL, Clerk of Board of Supervisors, for \$1000 as a guarantee of good faith.

Done by order of the Board this the 14th day of March, A. D. 1917.

D. C. McCOOL,
Clerk of the Board of Supervisors of
Madison County, Mississippi.
R. E. SPINEY, JR., D. C.

Bids close April 6, 1917.

\$50,000 5% Bonds

Darlington, S. C.

Notice is hereby given that the Town Council of the Town of Darlington will receive sealed bids until 12 o'clock noon on Friday, the 6th day of April, 1917, for street-improvement coupon bonds of said town of the denomination of One Thousand Dollars (\$1000) each, in the aggregate sum of Fifty Thousand Dollars (\$50,000), to be dated the first day of April, 1917, to be payable on the first day of April, 1947, to bear interest from date at the rate of five per cent. (5%) per annum, payable semi-annually on the first day of April and the first day of October at some bank or trust company in the City of New York to be designated by the purchaser. All bids must be deposited with the Clerk of the town, and each bid must be accompanied by a certified check of the bidder for One Thousand Dollars (\$1000), payable to the order of said Clerk.

It will be a condition of the sale of said bonds that Thirty Thousand Dollars (\$30,000) thereof shall be forthwith delivered and that the remainder of Twenty Thousand Dollars (\$20,000) of said bonds shall be delivered to the purchaser from time to time thereafter as and when the proceeds thereof shall be needed by the town for the prosecution of the work for which said bonds are to be issued. None of said bonds will be sold for less than par plus accrued interest to the date of the actual sale and delivery thereof. The Town Council reserves the right to reject any and all bids.

By order of the Town Council.

March 16, 1917.

E. R. COX,
Mayor.
EUGENE VAUGHAN,
Clerk.